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36724

# GLEANINGS IN BEE CULTURE

Christmas 1908



The A. I. Root Company  
Medina, Ohio

Ten Cents

# A Genuine 1900 Washer on Genuine Free Trial

You can have a *genuine* 1900 Gravity Washer to use a full month before you even make up your mind whether to keep it.

You need not send us a penny in advance. You need not make any deposit with anyone. You need not sign any notes, give any security or obligate yourself to pay us a penny unless you decide to keep the washer. And you need not decide whether to keep the washer until after the **FREE Trial**.

Merely say you will give our washer a fair trial and we will send you a genuine 1900 Gravity Washer all freight prepaid. Take this washer and use it a month. Do four weeks' washings with it. Then, if you're not satisfied, don't keep the washer.

Tell us you don't want our washer and that will settle the matter. We promise not to argue nor protest. Your judgment is all we ask, and if *after* the **FREE Trial**, it is your choice to keep the washer, then—*we will trust you for it*. Send us each week (or each month—suit yourself) *part of what the washer saves for you*.

In just a short while, your washer will pay for itself this way. Then—the washer is yours and all it saves is yours.

The *genuine* 1900 Washers are the most wonderful washers made. They are the strongest and most durable. They are the easiest to handle. They wash your clothes cleaner than you can wash them any other way.

Our 1900 Gravity Washer is the *only* washer with two motions—swinging back and forth and moving *up* and down at the same time.

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No other washers have these *double motion* and squeezing features. They are *exclusive* with the 1900 Gravity Washer and cannot be duplicated, nor imitated, because we have all the working parts of the 1900 Gravity Washer patented.

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We trust any responsible party.

Send us a post-card, giving your name and address, and we will send you *post-paid* our new Washer Book telling how the 1900 Washers save time, and labor, and clothes, and make washing almost a pleasure. Address—

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Teaches the Sick How  
to GET Well

Teaches the Well How  
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Here is Just What You have been Looking for.

A wide-awake, up-to-date, all-around health magazine, full of meat as a ripe nut, edited by America's leading authority on right living—a thoroughly dependable guide to perfect health.

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"The magazine grows better and better, and I try to show it wherever I go. The Mothers' Number I used at a mothers' meeting with much favorable comment.

MARGARET J. BILZ."

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"We have received your October issue. A magazine like this ought to have a circulation equal to that of *The Ladies' Home Journal*.

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**GOOD HEALTH** is the **original** health magazine. It is entering upon its forty-fourth year. Subscription price, single, \$1.00 per year. Canadian postage, extra, 35 cents. Foreign postage, extra, 50 cents. Send for our great clubbing offers!

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DISTRIBUTOR OF

ROOT'S GOODS EXCLUSIVELY

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If you want EARLY-ORDER DISCOUNTS, send us a list of your needs, and we will be pleased to quote you our lowest prices. **WRITE NOW!** We are equipped to give all orders, no matter how small, careful and prompt attention.

**We wish a Merry Xmas and a Happy  
New Year to all our Patrons.**

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# C. H. W. WEBER

Office and Salesroom, 2146-2148 Central Ave.  
Warehouse, Freeman and Central Avenue.

CINCINNATI,

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OHIO

For information regarding honey markets see page 1532.

# HONEY HONEY

**WE ARE ALWAYS IN THE** market for good Extracted Honey in cans or barrels. Send us samples of what you have to offer, and give price expected delivered in **TOLEDO.**

The largest packers of good honey in the **United States.**

We handle several cars of choice comb honey in season, and shall always be pleased to hear from those harvesting a nice article, especially producers in Ohio, Michigan, Wisconsin, Illinois, Indiana, and New York. No shipment too large for us. Cash in full when goods are weighed in.

If you need honey, write us.

Good second-hand cans for sale, good as new; used only once. Write for prices, stating how many you can use.

**Griggs Bros. & Nichols Co.**  
Toledo, Ohio

# H O N E Y

If your crop is short, and you need honey, write to us; we can supply your wants. Also, when you have any surplus, state kind and quantity with lowest price delivered at Cincinnati.

*We wish a  
Merry Xmas  
and a  
Happy New  
Year  
to all of our  
patrons.*

Cincinnati **C. H. W. WEBER** Ohio

# HONEY

Light amber, good flavor, 8½ c lb.; bbls., 7½ to 8 c lb. Sample, 10c. No. 1 comb honey, \$3.60 case. Catalog of apianian supplies free.

**I. J. STRINGHAM, 105 PARK PL., NEW YORK CITY**

## Honey

Our market is good for fancy and No. 1 comb and extracted honey. Our com-

mission is one cent per pound. All consignments will have our best attention.

**Blake-Lee Company**  
No. 4 Chatham Row Boston, Mass.

## CALIFORNIA

## Honey and Beeswax

If you wish to purchase Southern California honey or beeswax, we are the people you want to consult. Or if you have honey and beeswax to dispose of, right here is where you can sell either to the best advantage. All inquiries receive prompt attention.

## Hamilton & Menderson

1022-1023 Central Bldg. LOS ANGELES, CAL.

## H. A. CROSSLAND & CO.

Dealers in  
Honey, etc.

INDIANAPOLIS, IND.

Dealers in  
Honey, etc.

beg to inform readers of this magazine that their volume of trade in honey is very large. When it comes to handling large lots of honey we believe our facilities are excelled by none in the trade. At the same time we do not disdain small shipments of comb or extracted honey. As to our responsibility, consult Dun or Bradstreet; or, perhaps, better still, consult The A. I. Root Co. If you are a honey-producer in our territory it will pay you to take note of our address and write us when your crop is ready to be sold. Our large warehouse is at 21 E. Maryland St., Indianapolis, Ind. We care for your honey there until it is sold.

**H. A. CROSSLAND & CO.**

## Honey and Beeswax

If you are not satisfied with the prices you are now obtaining for your produce, send it to us for sale at Liverpool.

## TAYLOR & CO.

7 TITHEBARN ST.  
LIVERPOOL, ENGLAND.

and at London, Manchester, Wolverhampton, Hamburg, Paris, Lisbon, etc.

N. B. We also deal in Rubber, Coffee, Corn, Fibers, Sugars, Minerals, and all other kinds of products.

# Extracted Honey Wanted

We are always in the  
market.

If you have any to sell, mail  
small average sample to

**NATIONAL  
BISCUIT COMPANY**

Purchasing Department,  
Washington Blvd. & Morgan St.  
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# Honey

our specialty. We buy and  
sell all kinds of honey and  
beeswax. If you want to buy  
or sell, get in touch with us.

Samples on request.

**C. C. Clemons Produce Co.**  
Kansas City, Mo.

**CHARLES MAC CULLOCH**

Twenty-five years' experience in selling

# HONEY

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—ENOUGH SAID—

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WHOLESALE DEALERS AND COMMISSION MERCHANTS IN

Honey, Beeswax, Maple Sugar and Syrup, etc

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**We Handle**

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Also a Complete Line of

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Established since 1876

For 30 years we have been recognized head-  
quarters for

# Comb and Extracted HONEY

and you can readily see where it is to your ad-  
vantage to consign your honey to us if you  
want to realize top prices for your product.  
Liberal cash advances made on arrival of honey.

References, First National Bank, Chicago.

**S. T. FISH & CO.**

189 South Water St.

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# R. HARTMANN PRODUCE CO.

Commission Merchants  
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# Honey and Beeswax

Fine grades of Butter, Cheese,  
Sausage, Eggs, Beans, Peas.

No. 14 South Second Street, St. Louis, Mo.



# WHEN WE SAY

We're Big Dealers in extracted and comb honey we mean it. We've sought honestly from ocean to ocean, for a dealer who does a bigger business, but we can't find him.

# WHEN WE BUY

We mail shipper check the day the shipment arrives. That's one reason why we get the choicest goods, the pick of the supply. We're mighty particular about promptly paying for goods we buy—ask any shipper who has ever dealt with us.

# WHEN WE SELL

You get the best honey at bought-for-cash prices, backed by our reputation for square dealing. We've got finest Water-white Mountain-sage Honey; best White-clover Honey, and Water-white Sweet-clover Honey, all extracted, and all in crates of two 60-lb. cans to the crate. Ask for prices.

*Beeswax bought and sold, too.*

We build our business on the foundation of square dealing—and we are building it right!

## THE FRED W. MUTH COMPANY

51 WALNUT STREET

THE BUSY BEE-MEN

CINCINNATI, OHIO

## Do Not Forget

**W. C. TOWNSEND**  
OF BUFFALO, N. Y.

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176-178 Perry St. BUFFALO, N. Y.

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**Finest Quality Any Quantity**

If you want a ten-cent jar or a ten-ton lot, write for my quotations. Many of the best bee-men in the central States have shipped their entire crop to me to be distributed. I supply the dealer, the consumer, or the bee-keeper with a small apiary. . . . .  
Sample of extracted honey free to prospective buyers.

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199 South Water Street  
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Wish all their friends the compliments of the season. To those bee-keepers who do not know us we wish to say we have bought and sold honey in this city for many years, and by fair dealing expect to remain here many more years. Our business is one of the largest of its kind in the country, hence a large shipment of honey does not worry us. Our facilities for storing and selling honey are complete; and should you have honey to sell it is to your interest to communicate the fact to us. Our quotations appear regularly in GLEANINGS. We refer by permission to the publishers of this paper as to our responsibility.

R. A. BURNETT & CO.,  
The Honey-dealers.

**WE WILL BUY AND SELL**

# HONEY

of the different grades and kinds

If you have any to dispose of, or if you intend to buy, correspond with us.

We are always in the market for WAX at highest market prices.

**HILDRETH & SEGELKEN**

265-267 Greenwich St., 62-66 Murray St.  
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# Poultry and Bee Supplies

*This  
is where we  
shine.*

A large and complete stock always on hand, and all the latest goods made.

## Prairie State Incubators and Brooders

The most reliable machines made to-day; they are guaranteed to please, or money will be refunded. How does that sound?

## Root's Bee-supplies

4 per cent discount for December orders.

The best made, the most satisfactory, and, above all, the cheapest in THE END; no misfits or knotty stuff; every piece fits in its place; the kind you have always had, and we know the kind every successful manager of bees wants. **Root's Quality** counts with us.

Send in your orders; we will do the rest.

Our new 1909 catalog will be out soon. Send us your name for one, and be in the lead. They are free.

**CRIGGS BROS. & NICHOLS CO.**  
523 Monroe St., TOLEDO, OHIO

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made by standardizing size of Shipping-cases as well as combs, and meet the up-to-date requirements of the trade in

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Established 1875.

## IMPROVED DAN-ZE GUARANTEED 'ALL RIGHT'

GOLD MEDALS

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IS THE BEST,  
STRONGEST,  
COOLEST,  
CLEANEST,  
CHEAPEST,  
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SMOKER SOLD  
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With the side grate **combines** hot and **cold blast** deflecting part of the air back and over the fuel; **COOLS** as it **expels** the smoke, while part fans the side and bottom till all consumed. **The Double-walled case**, 3½ inches in diameter, has asbestos-lined sides and bottom, keeping all cool.

The projecting hinge-strap protects the smoke exit, and renders easy opening the one-piece cap.

**THE VALVELESS** metal-bound bellows combines **simplicity, utility, and durability.**

**Five years** increasing sales justify us in extending our **GUARANTEE of PERSONAL RESPONSIBILITY** for full satisfaction or **REFUND** of price on all our smokers sold by **US OR OTHERS.**

Price, \$1.00; two, \$1.60; mail 25c each extra.

**DAN-ZE HIVES** with metal **Propolis-proof Guards.**

**ROOT'S Goods** at **Root's prices**, early-order discounts.

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## Mr. Bee-Man:

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I have a full line of Hives, Supers, Sections, Foundation—in fact, every thing you need in the apiary. If you do not have a catalog, send for one to-day.

**182 H. H. JEPSON Boston, Mass.**  
Friend St. Phone Haymarket 1489-1

ESTABLISHED 1884

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We keep in stock Root Co.'s perfect goods, "the standard." We equalize freight rates with St. Louis and Kansas City points on all shipments of 100 lbs. and over. Send us your inquiries early.

**JOHN NEBEL & SON SUPPLY COMPANY**  
MONTGOMERY COUNTY .. .. HIGH HILL, MO.

# Practical Works on Bees

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THE books mentioned below, as well as those on the next two pages, are all devoted to practical bee culture, although a few of them, as will be noted by their descriptions, have more or less scientific value. A somewhat careful reading of the descriptions below will undoubtedly show any one just what book will suit him best. If several books are to be selected covering a wide range of subjects, the following list may be helpful in deciding what you want: A B C of Bee Culture, Langstroth on the Honey-Bee, Advanced Bee Culture. Or this list: How to Keep Bees, Forty Years Among the Bees, A Modern Bee-Farm.

## Cook's Manual of the Apiary

is a very complete treatise on bees and bee-keeping, nothing of any consequence being omitted by its author, Prof. A. J. Cook, formerly of the University of Michigan. Even the anatomy and physiology of the bee has been very completely covered in this work, also bee botany, and yet the practical management of the apiary has not been slighted in the least. The edition was completely revised and partly rewritten in 1902, hence it is up with the times in every respect. Price \$1.15, postpaid; 15 cts. less by freight or express.

## British Bee-keepers' Guide Book.

By T. W. Cowan. This is the leading English work on practical bee-keeping in England, and as such has had an immense sale, and has been republished in French, German, Danish, Swedish, Russian, Spanish, and Dutch. The work is condensed into 179 pages, handsomely bound and well illustrated. Price \$1.00 by mail; by freight or express, 5 cts. less.

## Doolittle's Queen-rearing.

This is practically the only comprehensive book on queen-rearing now in print. It is looked upon by many as the foundation of modern methods of raising queens wholesale. Mr. Doolittle has an entertaining way of writing on bee subjects which enables his readers to follow him with pleasure, even if they never intend to raise queens at all. Bound in leatherette, 124 pages, 75 cts. postpaid; by freight or express, 5 cts. less.

## Wax Craft.

By T. W. Cowan. We are now in position to take orders for the above book. It is elegantly bound and beautifully printed. See review by W. K. Morrison in our Sept. 1st issue. Price \$1.00 postpaid anywhere.

## The Irish Bee-Guide,

by Digges, is, as its name implies, a guide to the bee-keeping industry of Ireland. This is a closely printed, well-bound book of 220 pages with excellent illustrations on fine paper. It would be useful to any one who wishes to become acquainted with the status of bee-keeping in the old land. Price \$1.00 postpaid; by freight or express, 5 cts. less.

## A Modern Bee-Farm,

by Simmins, is one of those books which will cause you to sit up and take notice if you are a real live bee-keeper with lots of formic acid in your blood. The author is an English bee-keeper of note, who not only knows and understands bee culture in his own home land, but is as well an earnest student of American apicultural methods. He was the first man in the field with a non-swarming system of bee-management, and is otherwise a very original thinker on all that pertains to bees. He is not very orthodox in his views, but his book is all the better for that, seeing that he wants to take us out of the ruts. You can read the book right straight through, in the long winter evenings, as it runs along like a narrative or a novel. Cloth bound, 430 pages, 1904; price \$2.00 postpaid; by freight or express, 15 cts. less.

## Amerikanische Bienenzucht,

by Hans Buschauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price \$1.00; by freight or express, 5 cts. less.

## The Honey-Bee.

By T. W. Cowan. This is the standard work on the anatomy and physiology of the bee in the English language. It is packed with information on the subjects indicated, and expresses in a condensed, accurate manner every thing that has been discovered by the scientists of all countries who have studied the life history of the honey-bee. The book is beautifully bound, and printed and illustrated in the highest style of the art of book-making, and is invaluable to a bee-keeper. Last edition, 1904, 220 pages. Price \$1.00 postpaid. By freight or express, 5 cts. less.

## Quinby's New Bee-keeping.

This, a modern edition of Quinby's *Mysteries of Bee-keeping*, is one of the most useful books on apiculture ever written. Mr. Quinby was an intensely practical bee-keeper and greatly assisted Mr. Langstroth in laying the foundations of American apiculture. His son-in-law, Mr. L. C. Root, revised the old book, giving it a new title and bringing it in line with the times. It is a simple, easily understood guide to bee-keeping. Cloth bound, 271 pages, 1905; price \$1.00 postpaid; by freight or express, 10 cts. less.

**The A. I. Root Company, Medina, Ohio**



## PRACTICAL BOOKS

### How to Keep Bees.

By Anna Botsford Comstock. The novice in bee-keeping usually seeks for a simple book on bees, and in this he is wise. The modern text-books relating to bees are excellent in their way, but most of them are too technical for a mere beginner, however well they may be written. A simple book written in clear every-day language is much better, even if it does not treat of quite so many little details which interest only the professional bee-keeper. In this respect "How to Keep Bees" fills the bill. The gifted authoress, who is a charming writer as well as an artistic engraver and bee-keeper, made a start with bees three different times, hence she had the opportunity of finding out for herself the difficulties and trials that beset the beginner with bees. She had no desire to make money with bees, but did so, however, because they prospered under her care and skill. For this reason she writes as an amateur to amateurs, making no attempt to discuss the knotty problems which the expert bee-keeper is interested in. The book is written in a charming literary style, easily understood, almost entirely free from the technical language used by bee-keepers. It is arranged in chapters, and so eminently readable withal, that any one interested in the subject can sit down and devour it clear through, the same as he would a modern novel. Everything the average beginner desires to know is discussed, including what to order if you have no bee-supplies or bees. The print is large, and some very beautiful engravings adorn its pages, for the authoress is one of the most skillful wood-engravers in America. We can not do better than recommend this work to every beginner in bee culture.

There are twenty chapters in the book as follows: 1. Why Keep Bees. 2. How to Begin Bee-keeping. 3. The Location and Arrangement of the Apiary. 4. The Inhabitants of the Hive. 5. The Industries of the Hive. 6. The Swarming of Bees. 7. How to Keep from Keeping too many Bees. 8. The Hive and How to Handle it. 9. Details Concerning Honey. 10. Extracted Honey. 11. Points about Beeswax. 12. Feeding Bees. 13. How to Winter Bees. 14. Rearing and Introducing Queens. 15. Robbing in the Apiary. 16. The Enemies and Diseases of Bees. 17. The Anatomy of the Honey-Bee. 18. The Interrelation of Bees and Plants. 19. Bee-keepers and Bee-keeping. 20. Bee-hunting.

There is also a bibliography and index. From a beginner's standpoint it is a complete treatise on bees.

Cloth bound (228 pages), price \$1.10 postpaid.

**Doubleday, Page & Co., New York City.**

### THE SWARTHMORE LIBRARY.

A series of booklets on bee subjects by E. L. Pratt, of Pennsylvania, known to the bee-keeping world as "Swarthmore." These books are full of the most valuable information. The Swarthmore method of queen-rearing is spoken of as the most important innovation in bee-keeping in recent years.

#### Increase.

The first of the series. Any one desiring to enlarge his apiary should learn the Swarthmore way. Price, postpaid, 25 cts. French edition, entitled "Accroissement," 50 cts. postpaid.

#### Baby Nuclei.

The using of little frames and a handful of bees for mating queens has created quite a stir in the queen-rearing business. From this booklet you get your information direct. Price, postpaid, 25 cts. French edition, entitled "Nuclei Miniatures," 50 cts. postpaid.

#### Commercial Queen-rearing.

A complete description of the Swarthmore methods of queen-rearing in regard to cell-getting. Price, postpaid, 25 cts.

#### Forcing the Breeding-Queen to Lay in Cell Cups.

This little book rounds off the Swarthmore system. It is the finishing touch, and ought to be read by all queen-breeders. Price 25 cts.

#### Simplified Queen-rearing.

Revised edition. It tells the honey-producer how to rear queens by the very simplest method ever published. Good queens for little money and little trouble, in just an effective and economical plan for the bee-keeper who works for profit. Price 25 cts., postpaid.

**E. L. Pratt, Swarthmore, Pennsylvania.**

## A Book for Bread and Butter Bee-Keepers, by a Practical Bee-Keeper who Knows.

## ADVANCED.... BEE CULTURE

By W. Z. HUTCHINSON

This is, as its name implies, a book for the professional or more advanced bee-keeper, one who has mastered the elementary details of the business, and who is looking for ideas which he can use in his work. It is particularly good for the bee-keeper who wishes to know how large bee-keepers lay out their work; how they manage out-apiaries; how they extract and how they prepare for the market, and all the various details of the business of keeping bees. It is almost equally good for beginners also. The author of

### Advanced Bee Culture

is Mr. W. Z. Hutchinson, editor of the *Bee-keepers' Review*, who has had a long and varied experience in practical bee-keeping. He writes in a very clear and accurate style, so that there is never any difficulty in following his meaning. He eschews the scientific part of bee-keeping, being content to study the commercial side only. The book itself is beautifully printed and illustrated, and very prettily bound. It is a book the advanced bee-keeper will often turn to just to see how other skilled men do their work. One good hint will pay for the book many times over, and the author having been through the mill himself always sees the salient features of a system. In his quest for information Mr. Hutchinson visited many able bee-keepers with eyes and ears wide open, that he might be the better able to assist his readers with ideas they could use in their every-day work in the apiary.

He is an excellent photographer, therefore it is not to be wondered at that he supplies a number of very beautiful illustrations which not only adorn but instruct. Perhaps we can do nothing better than give a list of chapters, as follows: Bee-keeping as a Business; Making a Start in Bee-keeping; Mistakes in Bee-keeping; The Influence of Locality; Best Stock and How to Secure It; The Choice of a Hive; Honey-boards and Queen-excluders; Sections and Their Adjustment on the Hive; Arrangement of Hives and Buildings; Comforts and Conveniences in the Apiary; Shade for Bees; Contraction of the Brood-nest; The Use and Abuse of Comb Foundation; Increase, Its Management and Control; The Hiving of Bees; Commercial Queen-rearing; Introducing Queens; The Feeding of Bees; The Production of Comb Honey; Producing Good Extracted Honey; Migratory Bee-keeping; Out-apiaries; House-apiaries; Poul Brood; Apiarian Exhibits at Fairs; The Fertilization of Queens in Confinement; The Rearing of Beeswax; The Relation of Food to the Wintering of Bees; Outdoor Wintering of Bees; The Ventilation of Bees; The Relation of Moisture to the Wintering of Bees; The Influence of Temperature in Wintering Bees; Care of Bees in Winter; Index.

\$1.20 postpaid; or the book and the Review for 1908 and 1909 for only \$2.00.

**W. Z. Hutchinson**  
Flint, Mich.

Up to Date in Every Respect.

Good for Veteran and Beginner Alike.

Full of Practical Ideas.

## PRACTICAL BOOKS

## Forty Years Among the Bees

.. by ..  
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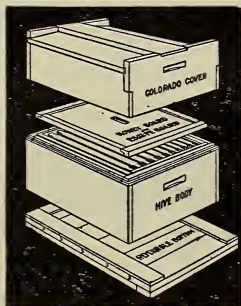
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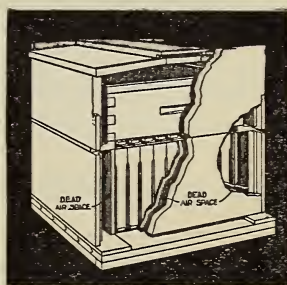


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### OLD HAMPSHIRE BOND PAPER.

It is always very good policy to use good paper, either in social or business correspondence, for many good reasons. We know fine paper is apt to create a favorable impression, even before we have read the letter on which it is written. In doing business with entire strangers by mail we are generally quite anxious to make a good impression; and one way of doing it is to order the printer to use Old Hampshire Bond in making up your stationery. He will perceive at once that you want a good job and will make his printing fit the paper. It is a mistake to suppose any sort of paper and any kind of printing will answer the demands of modern commerce. A good business man is expected nowadays to use good stationery, etc.; and unless he does so his trade will suffer, more particularly with strangers. If you are in doubt, just specify "Hampshire Bond," and you are safe. Every printer knows the name, and has some of this paper in stock for his best customers. Don't let him palm off a substitute on you. He can easily get more Hampshire Bond when he wants it. Send for samples of their paper as advertised on our last cover page. Their samples show various color combinations which can be used to advantage many times.

### SOMETHING ABOUT GASOLINE-ENGINES.

I have mentioned before that I have been looking at the matter of a cheap little engine to run my bone-cutter, to pump water for my garden, and do similar work around my home in Florida. Huber and Ernest, several years ago, made a thorough investigation to find a small engine suitable to run our honey-extractors, and they finally decided on the Gilson engine as advertised elsewhere. They believed that it was the best engine for the money, on the market, and the experience of over two years has shown that they were not mistaken.

There is a big demand for small two-cycle engines to propel boats. I think they are now advertised for thirty or forty dollars, for any boat to save the laborious work of rowing, but the boys tell me that all of these small cheap engines are extravagant in the use of gasoline. For instance, one of these boat-motors will take as much gasoline in running *an hour* as

the larger and more finished engine, such as is advertised in this issue by the Gilson Mfg. Co., would require to run it a *whole day*. In view of this, I decided to use the one we employ to run our extractors, even if it is a little larger than I need at present—one that "goes like sixty, sells like sixty, sells for sixty." You see it is always an excellent idea (while you are making a purchase), to have a little *more* power than you actually need at the time. We have had such good reports from these engines that we feel perfectly safe in recommending them. The same concern builds other styles of engines up to 16-horse-power. All who are interested will do well to write the Gilson Mfg. Co., 624 Park St., Port Washington, Wisconsin.—A. I. R.

### "GOOD HEALTH" MAGAZINE.

Those of our readers who earnestly desire to keep well informed on all the latest ideas with regard to personal hygiene and sanitation can hardly do better than purchase a year's subscription to *Good Health*, published at Battle Creek, Mich., which town is now very properly regarded as headquarters for all information pertaining to good health.

The knowledge which *Good Health* sets forth is written in a style suitable for popular reading. It is not a doctor's journal, though many doctors read it, but is rather meant for the great army of common people who try to keep themselves out of the doctor's hand. Read what Mr. A. I. Root says about *Good Health* in our November 15th issue.

### BEE-KEEPERS' SUPPLIES.

We call the attention of our readers to the advertisements of the bee-supply dealers appearing in this issue. No matter in what part of the country you live, you will find an advertisement from a dealer near you. This is the best season of the year to buy bee-keepers' supplies, for you will have plenty of time to get them ready for use in the spring and will be able to save money too, for most dealers offer discounts for early orders. Consult these pages often during the next few weeks when making up your bee-supply orders.



# A Distinction and a Difference

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## Your Opinion

There are arguments for and against class publications, but there are class publications and **CLASS PUBLICATIONS**. **Gleanings in Bee Culture** is in a class by itself—there is no other field like ours.

## Our Knowledge

YOU can not class it in general terms or measure its tremendous power as an advertising medium by a surface view of conditions.

WE know that there is hardly a single article advertised in the general magazines that can not be profitably advertised in our columns. The bee-keeper of to-day will buy almost any thing that is properly advertised. A recent canvass of our subscribers shows that they are interested in the purchase of a wide class of merchandise, including farm implements, poultry and nursery supplies, home improvements, including bath-room fixtures and water systems; breakfast foods and food products, automobiles, pianos, etc.

## An Agency's Confidence

**Gleanings in Bee Culture** has a peculiar influence over its readers, for many have been subscribers since its first issue thirty-six years ago, and to them it is first of all a home magazine and a family friend. This spirit of good will was recognized by the president of a prominent advertising agency when he said: "The secret of such remarkable returns secured by so many advertisers in **GLEANINGS** is due, in my judgment, to that peculiar hold which Mr. A. I. Root has on his readers—that *esprit de corps* which exists between him and your subscribers."

## An Advertiser's Report

Every one of its 100,000 readers (we figure only three readers for every paper) scan each number from cover to cover. The advertising pages are read with as much interest as any other part of the paper. Our readers are a busy people; few of them buy all the leading magazines, but they always find time to read **GLEANINGS IN BEE CULTURE**; in fact, in many instances it is almost the only magazine of any note going into the home. Our readers have implicit faith in advertisements accepted by us, and patronize advertisers liberally. For instance, read the following extract from a letter from the National Fur and Tanning Co.: "You will be glad to know that, from the twenty papers in which our advertising appeared last year (winter of 1907-'08), there were only two which made a better showing. In one paper—a farm paper which has a national reputation—the inquiries cost us three times as much as they did in **GLEANINGS**."

What better proof can advertisers want that our columns will bring results than the actual facts stated above? We solicit no advertising which we know will not pay the advertiser well. Write us for particulars on any point.

**"If goods are wanted quick, send to Pouder."**  
**Established 1889**

## EXACTLY SO.

*By the Bee Crank*

System in a bee colony is one of the cardinal virtues. No merchant prince ever perfected an organization that compares with the methodical way in which the business of the bee is conducted. Bee-men well know, for example, that the hexagonal cells of the honey-comb are laid out with marvellous accuracy. So wonderful is their precision that Reaumur, a French scientist, at one time suggested that the side of these cells be adopted as the unit of measurement for the metric system, because it is more nearly unvarying than any other standard that nature affords.

**The Pouder System.** My system for handling orders is modeled along the lines laid down by the bees. I do not claim that it is an improvement upon that, but it is as near perfect as human ingenuity can make it. Years of close attention to the details of the bee-supply business has qualified me to offer the bee-men a class of service that for promptness, accuracy, and minute attention to details is almost perfect. Bee-men who have experienced exasperating carelessness of some dealers will appreciate Pouder Service; and to have Pouder



Service is worth a great deal to you, but costs you not one cent, for I sell Root's goods at Root's prices, and all other standard supplies at the very lowest figures. All cash orders received during December will be allowed a special discount of four per cent for the purpose of putting a little ginger into this quiet month. In January the discount will be three per cent.

When you want what you want, when you want it just as you want it, send to me. You should have a copy of my catalog on your file. A postal will bring it to you. Orders from the Root catalog receive the same attention as though made up from my own.

**BEESWAX.** I can dispose of all the beeswax that you can spare, and am now paying 28 cents cash or 30 cents in trade, delivered at Indianapolis. Now is an excellent time to box up your wax and exchange it for supplies so that, when supplies are wanted, they will be ready.

Let me hear from you. Every communication sent here is entitled to an immediate and courteous reply.

**Walter S. Pouder,**  
**513-515 Massachusetts Avenue, Indianapolis, Ind.**



# GLEANINGS IN BEE CULTURE

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## STRAY STRAWS

DR. C. C. MILLER

MARGARET GRAY is advised, page 1444, to remove honey from the hive to prevent granulation. Does honey granulate sooner in the hive than out? [No. Quite the other way, or at least that has been the general impression.—ED.]

LET ME ADD a little to that reply to Charles Reynders, p. 1443. If you receive a queen that you don't want to use immediately you can put her caged in any strong colony, putting the cage between the brood-frames, but not allowing the bees of the hive to get at the candy. I think she might stay a month all right.

HONEY "is not spoiled in cooking as many good foods are," p. 1430. Quite right as intended, but it does not mean that you can boil honey without spoiling it. A very little cooking beyond 160° hurts the flavor. [Boiling honey certainly does spoil it for table use; or, rather, we should say, it greatly mars its flavor.—ED.]

ABOUT THAT twenty colonies from nine, page 1443. It is quite possible, as stated, "that two of that nine were strong enough to make two other colonies each." It's perhaps a little more likely that from each of the nine colonies a single frame was taken, these nine frames being used to make the two colonies. [We accept your amendment.—ED.]

DRONE COMBS in supers. "Unless perforated zinc is used the queen would be quite sure to occupy this drone comb," page 1425. Let me add that, if perforated zinc is used, the bees will hold open more or less of the drone comb for the use of the queen. I judge this from the fact of seeing sections not entirely filled with worker foundation, and the vacancy filled out with drone comb, the drone comb entirely empty when the rest of the section was filled with honey. [Since Dr. Miller speaks of it, we remember there have been reports of how drone-cells would be left open and empty, while the worker would be filled with honey. Who else has any thing to offer on this subject?—ED.]

E. D. TOWNSEND has hit it exactly in that bottom paragraph, p. 1432. An eight-frame hive is too small for extracted honey, and possibly for comb. At any rate, no one should fool with an eight-frame hive unless he intends to give his bees the very closest attention. But I am not so sure about some things in the preceding paragraph. He says, "Bees on ten frames of brood will store the same amount of honey whether the brood is all in one hive, or divided into two parts and in

two hives." I haven't the figures at hand; but from some of the authorities across the water has come the statement, never before contradicted, to the effect that, if one colony is twice as strong as another, it will store *more* than twice as much honey.

THAT COMB HONEY 12 years old, p. 1437, reminds me. Years ago, on a visit to my mother I spoke of sending her some honey. She said, "Why, Charles, you don't need to send me any. I have plenty left from last year." "Oh! but last year's honey is no longer so good," I said. "Oh! but it is," she replied. "Please show it to me." To my surprise she showed me sections of honey that were faultless. "Where do you keep it?" I asked. "Up in the garret." If you know what a garret or attic is, you know it is a very cold place in winter, but roasting hot in summer. The roasting the honey got in the latter part of summer seemed to have thickened it so that the winter's freezing did not affect it. Afterward I saw at a Rockford convention section honey in perfect condition that had been kept over in the same way.

AFTER READING about clover, p. 1426, I went out to reconnoiter. We had one of the worst drouths last summer I ever knew—perhaps the worst. No rain fell from August 11 till Sept. 27—47 days. In the cow pasture, which has not been fed down for some time, I found abundance of young clover, and I see no reason why it may not be as good next year as this. In the horse pasture, which has been continuously and severely grazed, I saw no clover. However, putting on my specs and getting down on my hands and knees I could see here and there wee clover leaves started. I doubt if there'll be a very big show there next year, when this year it was a mass of white. [We should be glad to get reports from others who may know the exact conditions, as it must necessarily have a strong bearing on the price of clover honey at least.—ED.]

IS IT TRUE that "what kills the clover is not the drouth, but too much water in the ground and hard freezing"? If farmers agree on that I'll take their word for it; but naturally I should think just about the opposite. I think it is generally believed that it isn't so much freezing that hurts as thawing, especially frequent and rapid freezing and thawing. Wet ground is slower at thawing out than dry, and the dryer the ground the more rapid the freezing and thawing, I should think, hence the more harm. [You may be right; but is it not possible that a wet soil heaves more—that is, expands more during the process of freezing—than a dry one? Now, the roots of clover extend for several inches into the ground,

and the expanding of a wet soil, through the process of freezing, would necessarily have a tendency to break some of the roots. A dry soil, with very little or no water in it, could expand no more than so much dry sawdust in a box; but wet that sawdust, and the process of freezing will burst the sides of the box and cause a slight elevation in the middle, just as we find is the case with a pail of water that has frozen over night.—Ed.]

"IT PAYS to melt old combs," p. 1425. Figures are given to prove it. May be they prove it, and may be they don't; depends upon whether a frame of foundation is worth as much as one of old comb. Sometimes it is, oftener it isn't. Even with the best of old comb, melting may pay big in a foul-broody locality. [On your first point there are a good many who will differ with you. Old combs have a tendency, so some extracted-honey producers say, to discolor the honey. While the amount of discoloration is very slight, it is appreciable. Then, too, is it not true that a nicely wired frame of foundation is preferable to an old procolized frame containing old comb more or less mutilated and unwired?

Then there are quite a school of bee-keepers who believe that worker-cells in old combs are contracted, to the detriment of brood-rearing. While we ourselves do not take much stock in this, yet it has weight with some.

We have placed frames of foundation in extracting-supers in the height of the honey-flow, and had them filled out in from 24 to 48 hours. These new bright combs, perfectly clean, with the assurance that they are absolutely free from disease—well, we will take them in preference every time, even if they do cost a little time and energy on the part of the bees to draw them out.—Ed.]

WHEW! Mr. Editor, you seem to be a radical of the radicals on the subject of deep bottom-boards, p. 1424. I supposed I was the original simon-pure blown-in-the-glass advocate of deep spaces under bottom-bars with my 2-inch space. If you're going to advocate 1 to 3 inches with nothing to prevent building down, I'll fight you for infringement. I suspect there's a mistake in that statement that "between the bottom-bars and floor of the bottom-board the space can be anywhere from 1 to 3 inches, and the bees will not build comb except during an exceptionally heavy honey-flow." The flow from dandelion is not an "exceptionally heavy honey-flow;" yet when I have failed to put in bottom-racks I've had lots and lots of comb built down in the two-inch space during dandelion flow. If I should leave more than about an inch of space below bottom-bars any time when bees were storing in supers, I should expect building down *every time*. To be sure, a little comb built down can be cut away, and no harm done; but the amount is not so very small, and the comb is likely to be built crosswise, so it must be cut away every time combs are lifted out, and the amount of brood lost is a serious matter. I am speaking from experience.

Any thing more than about an inch will make the final space really smaller. That seems a little contradictory, doesn't it? Let me put it in concrete form. Suppose hive A has a one-inch

space, and hive B a two-inch space. Hive A will preserve its one-inch space. Hive B will commence building down; but it will not stop building when it gets within an inch of the floor, but will keep on until there's only  $\frac{3}{8}$  inch between combs and floor. So you see that B, with its original two-inch space, has only half as deep a space finally as A.

*Moral.*—Have a two-inch space under bottom-bars (deeper if you like), and then for the time when there's danger of building down, put an open-work bottom-rack, allowing only one inch under bottom-bars. [This question must be largely one of locality. We certainly have had reports where there was a space as deep as three inches under the frames, and no comb was built in it except during exceptionally heavy honey-flows. We may suggest that, where the flow is heavy, like that from basswood, the bees will fill up a three-inch space; but where it comes in very slowly, with cool nights, the space would not be occupied. We do not just now remember the exact circumstances, but we are of the opinion that there were conditions when the three-inch space was tolerated. There is a comfortable feeling in view of what you say that we have never had the space more than one inch under our factory hives, believing it would be wise to err on the safe side. We should be glad to get reports, especially from those who found they could use a three-inch space to advantage. In the mean time we suspect it would be safe for the average person to go no further than Dr. Miller, and use a rack or dummy by which the space under the frames can be contracted during the honey-flow to one inch or less.—Ed.]

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## EDITORIAL

By E. R. Root.

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HEAVY snows have been falling in our locality. This is good for the clovers, without question.

WE desire to get more reports as to whether drouth in the fall kills clover. Then we shall also be pleased to get an article from some one who knows, explaining just what is meant by the winter-killing of clover.

WE have some doubts as to the special advantage of storm-doors or other devices to shut off the light and prevent strong drafts of air from shooting into the entrances of outdoor-wintered colonies. These things have a tendency to confuse, and sometimes clog up with dead bees.

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### MATTER FOR BEGINNERS.

FOR the coming year we are planning to furnish some special matter for beginners. While, of course, we shall have a great deal of technical reading for the professional and old-time bee-keepers, we shall pay special attention to the wants of the beginner. We have been surprised again and again to notice with what interest even the veterans will read matter designed for the novice, for no one is too old a bee-keeper to learn something new.



#### ELECTION OF OFFICERS OF THE NATIONAL BEE-KEEPERS' ASSOCIATION.

The following, from the Secretary, W. Z. Hutchinson, will explain itself:

The following were elected at the late election for officers of the National Bee-keepers' Association: President, Geo. E. Hilton; Vice-president, Geo. W. York; Secretary, E. M. Hunt; General Manager, N. E. France; Directors, R. L. Taylor, E. D. Townsend, Udo Toepperwein. W. Z. HUTCHINSON.  
Flint, Mich., Dec. 6.

#### LOW SUBSCRIPTION OFFER.

THIS is the season when many subscriptions will expire. Our readers should remember that we are not permitted to send our journal except for a short time after the expiration of the subscription. In order not to lose a single copy, renewals should come in at once. We are making a special low offer of GLEANINGS one year and Doolittle's fifty-cent book on the production of comb honey, and "How to Control Swarming," both for \$1.00; or we will substitute for Doolittle's book Alexander's articles in book form. The regular price of this series of articles by Alexander in one volume will be 50 cents; but we will club it with GLEANINGS for one year for \$1.00.

#### GLEANINGS FOR NEXT YEAR.

WE are not making any great promises; but the constant growth of our journal, the increase in the quantity and quality of our illustrations, and the excellence of our contributed articles, should be some index as to what the journal will be for 1909. The editor is planning to make some special trips with his camera, to get new material from men who are successful, but who either have not the inclination to write or feel unable to express their thoughts on paper.

Letters from our subscribers have indicated of late a preference for more short articles in which the actual experiences of bee-keepers are given. Scientific articles are important, and they have their place; but we believe that the majority of our readers will be glad to see fewer long articles and more short ones. We ask our older contributors, therefore, to be as brief as possible.

#### WINTERING IN A WARM BUILDING.

HAVING occasion to use combs of bees frequently during the winter in giving live-bee demonstrations, the idea occurred to us of keeping one colony right in the office in order to have a hive from which several combs of bees could be taken at any time during cold weather, without inconvenience. Remembering the experience of Mr. Geo. W. Phillips in wintering colonies in a warm room at college, as given in our Oct. 1st issue, 1907, page 1267, we located a glass hive on a window-sill, cutting a hole through the sash for an entrance, about three-fourths of an inch high and two inches wide. Panels are ordinarily kept over the glass so that the hive is dark with the exception of the light that comes in at the entrance. The temperature of the room is not often over 70°.

Bees were taken from the hive, for the first time, about two weeks after it had been located at the window. Although there was no brood in the combs at first, it was found that in the two weeks' time the queen had begun to lay in one

comb, and a considerable amount of brood was well under way.

The bees, contrary to what might be expected, are not restless, but quiet, and apparently perfectly contented. They are not tightly clustered, as would be the case in a hive outdoors during cold weather, but scattered quietly all over the combs, even on the outside of one of the outside combs. The space between the top-bars and the cover is always well filled with bees, and the space outside the end-bars (Hoffman frames) at the back of the hive is also quite often made the clustering-place of many bees. The weather has not yet been extreme; but when it was the coldest the bees withdrew more closely to the spaces between the combs. At times the majority of the bees are in the front part of the hive over the entrance, but usually they are pretty well distributed over the whole hive. The condition seems to be ideal; for, so far, not over a dozen bees have died.

Mr. Phillips found, in his experiments, that the consumption of stores was not large; and although it is too early to tell definitely, it would seem that no more stores should be consumed than by a colony in a cellar, and perhaps not as much. While the bees are not perfectly quiet, they are never restless, since the air from the outdoor entrance is always pure. If brood-rearing continues, even on a small scale, rather more stores will be used; but the greater part of the bees will be young and vigorous in the spring.

The bees show no more tendency to fly out in cold weather than do those in regular hives out of doors. They do not even venture down to the bottom-board in cold weather.

Of course, no extensive bee-keeper could find enough windows for all his colonies; but the house apiary makes it possible to have conditions very much like those that have been mentioned. Who can give us some actual experience with house-aparies in regard to the wintering of bees? Are the results any more uniform than those of colonies in individual hives out of doors? What about the consumption of stores in house-aparies? It is true that the house-apiary is much more common in Germany than in America, and we should like to get at the facts of the question.

#### SEALED COVERS VS. ABSORBENTS.

SOME years ago there was much discussion as to whether it is better to put the cushions directly upon and over the clusters of bees, or to place thin boards on top (which the bees seal down) and the cushions over these. There are times when the former seems to give the better results; and there are times when the latter seems to give the better showing. But one year with another, in the average locality the sealed cover furnishes the conditions most favorable for winter. When the absorbing cushions are placed directly on the cluster they are apt to become wet by the absorption of moisture, and freeze, when they are but little better than a cake of ice on top of the bees. With sealed covers, if the entrance be of fair size,  $8 \times \frac{3}{8}$ , the moisture will condense, run down the bottom-board and out of the hive, while the cluster is left clean and sweet and dry; and, more than all else, the cushions on top are dry, and of course are in the best condition to ward off the cold.

For the benefit of those who desire to watch a colony under a sealed cover, a sheet of glass may be substituted in place of a thin board. Over the glass should be placed a good-sized cushion, or a tray of chaff, sawdust, or planer shavings.

#### THE IMPORTATION OF BEES AND QUEENS INTO HAWAII.

IN the Oct. 1st issue, page 1176, we mentioned the fact that some restrictions had been placed on the importation of bees and queens into Hawaii. We wrote Mr. Van Dine, and have received General Circular No. 3, October, 1908. In it we find the following regarding the importation of queens and bees into the island:

##### RULE 4.—IMPORTATION OF QUEEN-BEES.

In order to prevent the introduction into this Territory of infectious, contagious, or communicable diseases among honey-bees it is hereby ordered that

All queen-bees imported into the Territory of Hawaii shall be subject to the following terms and conditions hereinafter set forth, namely:

(1).—*Label*.—A label shall be affixed to the cage, box, or other container in which any queen-bee is enclosed, which label shall set forth:

- (a) The number of queen-bees enclosed;
- (b) The locality where each was produced;
- (c) The locality from which each was shipped;
- (d) The name of the shipper;
- (e) The name of the consignee.

(2).—*Request for Inspection*.—The importer shall file with the Board of Agriculture and Forestry, at least two weeks prior to the date at which the queen-bee or bees will arrive, a written statement signed by himself or his agent or attorney which shall set forth his purpose to import said queen-bee or bees into the Territory of Hawaii, which statement shall contain as accurately and fully as possible the following information:

- (a) The number of queen-bees sought to be imported;
- (b) The probable locality where each was produced;
- (c) The locality from which each is expected to be shipped;
- (d) The name of the proposed shipper;
- (e) The address of the importer, and shipping-marks.

Said statement shall also contain a request that the Board, upon arrival of said queen-bee or bees, proceed forthwith to inspect or cause to be inspected such queen-bee or bees.

(3).—*Inspection*.—Immediately upon the receipt of such request for inspection, or as soon thereafter as may be, an inspector of the Board shall inspect each queen-bee; and, if it is found free from such disease, shall cause it to be transferred from any cage, box, or other container in which it shall have been imported, and shall transfer it to a new and clean cage properly supplied with clean and fresh candy, and with sufficient bees known to be free from disease to care for said queen-bee properly.

(4).—*Certificate*.—The inspector shall thereupon give to the importer a certificate of his findings upon such inspection, and deliver to him such of the bees as he finds free from all infectious, contagious, and communicable diseases.

(5).—*Destruction of Cages, Bees, etc.*—Immediately upon the transfer of any queen-bee from any cage, box, or other container as set forth in Section 3 hereof, said inspector shall cause to be burned and destroyed such cage, box, or other container, together with the candy and bees therein, excepting such queen-bee.

If said inspector shall at said inspection find any queen-bee to be infected with any contagious, infectious, or communicable disease he shall in his discretion destroy the same or hold the same for further treatment.

In relation to No. 3 in brackets, on the subject of inspection, it is not quite clear to us how any inspector would be able to determine whether a queen-bee in an ordinary mailing-cage was affected with any bee disease, except, possibly, with paralysis. No queen, unless she were killed, dissected, and examined with a microscope, would show the presence of disease germs. A dead queen in either case would be of no use to any one. It would mean the actual prohibition of sending queens by mail to the islands.

But it is possible to know the locality where the queen was produced, and the name of the shipper; and even then the information would be of but little value unless the inspector were thoroughly familiar with the locality in which the queen was produced. If, however, the queen-

bees came in a nucleus-box or hive accompanied with combs, then the inspector could offer an intelligent opinion as to whether the *combs* were free from disease, but not the bees or queen.

It should be the duty of the inspector to inquire whether the bee-candy put in the cages for the transmission of the queens was made of honey that had been thoroughly disinfected by a reasonable amount of boiling; and it might be wise to go further and recage all queens and bees that come in the mails, burning up the others.

In a further ruling, all foreign honeys are subject to examination before they are allowed to pass into the island. It is proper to remark right here, however, that a microscopic examination might not show the germs of disease—especially so as bacteriologists to-day are not entirely agreed as to what constitutes the cause of some of our diseases. It would seem to us that nothing but a thorough boiling would insure safety, and that would probably spoil it for table use. Inasmuch as honey of good quality is so cheap in Hawaii, there is no probability that any foreign honey would find a market on the islands, as it could not be laid down for any thing like the cost of the domestic article. Resident Americans possibly might be willing to pay a fancy price for clover comb honey, but it would be impossible to inspect this with spoiling it. Under the terms of the rulings it would seem that all foreign honeys would be barred from the islands.

In relation to the importation of bees and queens it will be wise on the part of the prospective importer to communicate at once with the committee on bee industry, consisting of Mr. A. Waterhouse and Mr. P. R. Isenberg; also with the Division of Entomology, Mr. Jacob Kotinsky and Mr. Albert Koebele, Hawaii.

#### THE DETROIT-CONVENTION PICTURE.

WE take pleasure in presenting in this issue a picture of the members of the Detroit convention of the National Bee-keepers' Association that met in the City of the Straits, Oct. 13 to 15. It was the special property of Mr. W. Z. Hutchinson, who has been and is still selling beautiful large reproductions of it, 20×24, that necessarily bring up more clearly the details than can possibly be shown here. His regular price for the picture is \$1.50 prepaid; but we have made special arrangements with him by which we are permitted to reproduce it in reduced size. Many a bee-keeper will want and should have a copy of the full-sized picture for framing in his home, especially if he is in it himself. It probably contains the faces of more representative bee-keepers—men who are prominent as writers, or who are successful as honey-producers, than any other photo of late years, and it will probably be many a year before we have as many of our leading men again in one group. Our readers will doubtless be glad to get the original so that, in the future, they can see how Mr. So and So looks when his name is seen in public print.

The final stenographic report of the convention is now ready for distribution to the members only of the Association in regular standing. This picture, in connection with this report, will make a very interesting contribution to our literature.



## SIFTINGS.

By J. E. CRANE

Mr. Doolittle's advice as to the best material for packing bees for wintering out of doors is sound, and no one will make a mistake in following it. See page 1147.

That recipe for beeswax finish, page 1194, is worth a year's subscription to *GLEANINGS*. Let's see if we can't remember it—one part pure beeswax; three parts turpentine; wax to be melted, and turpentine stirred in while hot.

Again, on page 1206, Mr. Morrison points out the value of honey in the production of levulose, the value of which has not been very widely known heretofore. How much we have learned about honey during the last year or two!

Those articles with illustrations, such as the one by J. H. J. Hamelburg, commencing on p. 1196, are exceedingly restful and refreshing. How fast the world is coming together and the prophecy being fulfilled, that "there shall be no more sea"!

Wesley Foster's experience in selling honey is certainly interesting, and shows what can be done. I have sometimes thought it might pay to organize and place peddlers of his stamp in every considerable town in the country. Every one would then have a chance to buy this most delicious food. Grocers do not seem to like to *push* the honey trade.

E. D. Townsend says, page 1185, "I have seen a dashing rainstorm cut off the basswood flow when but half over." Are you sure it was the washing of the blossoms that caused the flow to cease? I have several times known the flow from basswood to be checked and seriously injured when the storm was miles away—not a drop falling within range of my bees.

Waxing splints, page 1244, is briefly discussed. There was one thing we noticed in those illustrations of Mr. Atwater's combs. Neither of those that had wires in them was gnawed by the bees, while in both of them having no wires the splints were badly gnawed. Now, he may not have so intended, but somehow I got the impression that such was usually the case.

It is a great source of pleasure to learn from page 1244 that Dr. Miller is not grumbling after taking 138½ lbs. of comb honey per colony the past season. Our crop this season was 22 lbs. of comb honey per colony. The biggest yield I ever had was in one yard where it averaged 100 lbs. per colony. Say, doctor, is there any unoccupied territory in your vicinity?

I agree most heartily with Dr. Miller, p. 1176, that the United States flag should float over the brewery. The government is certainly in company with the brewer, and why not let the world know this fact? The evil is not in the emblem

but in the company. Let the government cease to draw its sustenance from the brewery, and the flag will no longer float there.

On the same page Mr. Morrison speaks of the value of the sunflower for both honey and seed. His statements, I believe, are quite correct. I used to wonder why more was not grown, until some years ago I raised a patch of them, and then learned how rapidly they would exhaust the soil—more so than any other crop I ever raised. With very rich soil or plenty of fertilizers they can be grown with success.

On page 1180 Mr. Holtermann illustrates a winter case for receiving and holding four single-walled brood-chambers. While I have for many years wintered bees in double-walled hives I believe that placing four brood-chambers in one large case is a decided advantage. Mr. Ira D. Bartlett told me a year ago that he had been very successful in wintering his bees in this way. Bees in single-walled hives are much more easily cared for during the warm months.

W. K. Morrison in the Oct. 1st issue of *GLEANINGS* gives us many interesting facts. In quoting from the Arizona Agricultural Experiment Station, however, he says that "honey makes excellent cider." Wouldn't it have been better to say a substitute for cider? While honey has many good and excellent qualities it does not make cider. Let's keep to the truth. Cider is the expressed juice of apples, and perhaps some other fruits, and in no possible way can honey be turned or changed into such juice.

Mr. Wm. W. Case faithfully portrays the evils and remedies for the ravages of the larvæ of bee moth, page 1199. I can not agree with him, however, that these larvæ will live for a long time on the footprints of the bees. It is just dirt or dirty wax brought up from below, and mixed with the wax, and which contains an exceedingly small percentage of nitrogen. I have found that, where such cappings are badly perforated and eaten, a good brushing with a rather stiff brush will greatly improve the appearance of the combs.

I am sure the bee-keepers of the country ought to be very grateful to Mr. Morrison for the many facts he has given us the past season in regard to honey and sugar, the value of honey as food, and the difference between cane and beet sugar. See pages 1248, 1249. A year ago I wintered most of my bees on raw cane sugar. Two yards wintered better than I ever had them before, except that in one I did not feed enough, and some starved. In other yards the bees suffered from poor honey stored before I commenced feeding.

On page 1245 Mr. D. Everett Lyon deems it a great injustice to bee-keepers that they should not receive pay for their tin cans in which honey is packed and sent to market; he also thinks it unfortunate that buyers should insist on the use of tin cans. Well, if Mr. Lyon had dug honey granulated solid in cold weather from a few 600-lb. barrels he would see a reason for bottlers

of honey wanting their honey to come in five-gallon cans that could be quickly placed in a tank of warm water to liquefy, and then be poured or pumped into a large tank for bottling. But why should not the buyer pay for the cans? Where the buyer pays  $\frac{1}{2}$  cent more for honey in tin than in barrels he does pay for them, does he not? and if he does, why should he not keep them and sell them to whoever he pleases? Again, it may be said that all goods sold include with them the container in which they are packed—barrels with apples or sugar, pails with lard, tubs with butter, etc. The farmer who sells a barrel of apples for \$1.75 sells his barrel with his apples, although it may have cost him 35 cents, or one-fifth of all he gets. The honey-producer sells a case of honey for 8 cts. a pound, and receives \$9.60 for it, cans and honey. His cans, if new, doubtless cost near 60 cents a case, or just  $\frac{1}{10}$  of what he gets. While the farmer loses one-fifth, the honey-producer loses but one-sixteenth. Sometimes crates are returned, as egg or fruit crates. As to selling used cans when in good shape, and free from dust, I see no objection. We sold, the past season, a large number of such cans for 25 cts. each. Those who bought them doubtless saved just about that much by buying them. Some of these we have bought back filled with new honey, none the worse for being packed in second-hand cans. Rusty or leaky cans should not be sold at any price. Again, there are some markets where the producer would find that it would pay better to use only new cans, as in cases where the honey is to be sold in the cans as received.

There is another thing in this connection I should like to speak of, and that is that much honey is lost by shipping it in cases too fragile to stand the journey, or with nails driven into the tin cans, or with caps not tight.

## CONVERSATIONS WITH DOOLITTLE

### WINTERING IN A CELLAR.

"Mr. Doolittle, I want to know the best time to set the bees in the cellar for good wintering. When we had that little snow about the middle of the month, I came near putting the bees in, but did not. Have you put yours in yet?"

"Yes, we put ours in just after the snow went off, waiting till every thing had nicely dried from the melting snow; and as there was no frost, and the ground was not frozen, the hives could be picked up as quietly as I ever knew, the bees not knowing that they were moved, unless by some mishap an occasional hive was jarred a little. It is quite a treat to get bees in so quietly."

"But was not the middle of November too early to put the bees in during such a warm fall as we have been having? My bees have been flying nearly every day for a week, and I have been congratulating myself that I did not put them in."

"Could we have known just what the weather would have been, perhaps it would have been as well to wait; but suppose winter had set in with that snow, as it more often does than otherwise,

then we would have had to carry in the hives all covered with snow and ice. It would also have been necessary to pry them up from the frozen ground, and the disturbance and dampness which would have existed under the circumstances would have tended toward very poor wintering."

"But would not the flights the bees have had more than overcome those things?"

"I do not think so. The bees had a good flight on the third of this month (November), and I doubt whether these later flights would have been of any practical use to them. In fact, I have had reason to believe that many days of flight during the late fall are a detriment rather than otherwise; for with so much activity after all breeding has ceased, there comes a consumption of honey and loss of vitality which can not be made up till the following spring; and by that time the bees are much nearer being worn out by old age than they would otherwise be, so that we have spring dwindling and its consequent derangements very much the same as after what is known as bee-diarrhea. With one good flight the fore part of November I always consider it better to get the bees in their winter quarters the very first good opportunity thereafter."

"Well, if that is correct you would advise me to put mine in at once, would you not?"

"I certainly would; and I would not wait longer than this afternoon about doing it, either, as it will be as good a time as you will be likely to have, as it is not freezing outside as yet, though the mercury is down to 36."

"There is another thing I wish to know about. Is it well to give the whole entrance to the hive when the bees are in the cellar, or would you contract the entrances part way?"

"If your hives have the bottom-boards nailed fast to the body, the best you can do is to give the whole entrance; but, if I am correct, very few of our practical bee-keepers of to-day use any thing else than a movable bottom-board. Our bees have a two-inch space the whole width of the hives during winter, and very many of the colonies cluster down below the frames till the bottom of the cluster rests on the bottom-board. They seem to enjoy themselves in this space, if I may judge from the splendid results."

"Do you allow any one to go into the cellar besides yourself?"

"Certainly; come on. I prefer a candle to any thing else for a light, as it disturbs the bees less, and I can hold it close up to where I wish to look. There! see that cluster under there, hanging down something like the crown of your hat till they touch the bottom-board."

"Yes. They do not move or stir more than dead bees."

"You watch them while I breathe on them. There! do you see the wings move and the stings come out? We'd better leave this hive now or they will soon be flying at the candle! See, here is a large cluster in sight, nearly as big around as a peck measure. See those rows of abdomens jutting down between each range of combs, each as immovable as though riveted there."

"But do they stay like that all winter?"

"They usually do until March, when they are not as quiet as now; that is, they will not stand the light as long at a time as now. Although the temperature remains the same, and the dark-



ness is the same, they seem to know that spring is near. The longer they stay in after the middle of March the more easily they are disturbed as each week passes, till they can go out to enjoy the commencement of another season of activity."

## BEE-KEEPING IN THE SOUTHWEST

By LOUIS SCHOLL

Merry Christmas and a happy New Year. The old year will soon be gone and a new one will begin. Has the old one been a profitable one to you? If not, why not? If it has been a profitable one, why was it? and what plans have you made to make the coming year even more profitable?

It seems a pity for a bee-keeper to melt up his old combs every four or five years, page 1366. One feels too much as Dr. Miller does about giving them up for sheets of foundation; and this will, I fear, be the trouble with too many in places where bee diseases prevail. Rather than melt up the valuable (?) combs, and thus gain just so much toward saving the bees from destruction by disease, they will be retained. We are anxious to see the figures that are forthcoming. We must confess ourselves that even we are somewhat stingy about our *good* combs unless there's something in it for us when melting them. [The figures referred to are given on page 1425, last issue. If there is no suspicion of disease in the locality, and the combs are straight and good, we would not advise any one to melt them up.—ED.]

### FALL ROBBERING IS DANGEROUS.

Care should be exercised to prevent robbing late in the fall. It has a wearing-out effect on the bees. This is in reference to wholesale robbing, or a robbing-spre, which often occurs through the negligence of the bee-keeper, though sometimes due to some avoidable accident. Of course, it also happens that the bee-keeper can not always avoid such wholesale robbing. We had such a case only last week. Since we haul nearly all of our honey home, where it is put up, the bees are always on hand, and soon show up by the thousand. They've been spoiled several times, and are always looking for another chance, even on very cool days, wearing themselves out unnecessarily when they should be in their "winter-quarters rest."

### QUEENLESS COLONIES LATE IN THE FALL.

It is a waste of time to look for queenless colonies late in the fall; and, besides, opening colonies when the bees are all at home starts robbing in a short time. When we find a colony queenless, or very weak from some other cause, we simply set it on top of another strong colony. The combs will be taken care of, at least, while otherwise moth larvæ might destroy them before we could make another visit to that yard. With many yards to attend to in a busy season we found long ago that tinkering with weak or queenless

colonies does not pay, and the above is the quickest way to dispose of them. Later the hives and combs may again be used for increase. During the late fall, only such are disposed of as are easily seen to be weak or queenless by simply walking through the yards. All others are left to take care of themselves until the following spring. If they die out in the mean time the combs are safe from the ravages of the moth larvæ. They must, of course, be taken care of promptly during warmer weather.

### BREAKING THE RECORD; REMOVING HONEY.

On page 1251, mentioning some of the good qualities of the shallow supers, reference was made to the fact that it was possible to remove from the hives a thousand pounds of honey in half an hour. This has brought me several letters from doubting ones, who question my "bold statements." Since the previous mention was made, however, I have been placed in position to make even bolder statements—that *with the shallow-frame supers I can remove a thousand pounds of honey from the colonies all by myself in twenty-three minutes*. This was done on a cool day in October. My watch lay on one of the hives. Had the bees moved out more rapidly the time would have been shortened; but they were "a little stiff," and had to be forced down with smoke in greater quantity.

Not only did I get letters of a doubtful nature as to the previously mentioned fact, but one person came himself from a distance to see this wonderful (?) stunt, and to go right after the truth. It was November by this time, and the air quite cool. The bees were quite numb, but with a little assistance in the way of smoking, 1140 lbs. of fine comb honey was removed in 17 minutes. In the summer a helper and this "6 feet 2" removed 1050 lbs. in a little over 10 minutes. That's taking honey off in a hurry as against the old method of brushing and shaking bees off the deep combs, etc.

### A PLEA FOR BETTER HONEY-CANS.

Before Texas producers make arrangements for honey-cans for next year I wish to get in touch with the bee-keepers of the State, especially the members of the Texas Bee-keepers' Association. In some correspondence with railroad officials I find that the loss of honey *en route* to customers is something enormous. If this is allowed to go on, bad results must necessarily follow. First, the railroads will begin to object to paying claims for damaged-honey shipments; and, second, the buyers, especially the merchants, will object to handling a commodity that comes damaged to such an extent that they can not handle it profitably. These matters are not as well understood by the average bee-keeper, but must obviously be learned in time.

The railroad companies are considering this matter now, and are looking for a remedy. To accomplish anything, they must get in touch with the bee-keepers who know and understand the situation. They are willing to handle the honey as freight, but not at a loss; and to find the remedy the cause must be located. If it is in the package used, it must be made stronger; if in the handling of the freight *en route*, then the mat-

ter must be looked after on that side. For this reason I shall be glad to receive letters from all those who have had experience in shipping honey, and especially those who have had damaged shipments, etc. All items that may be of importance toward helping to remedy the trouble should be mentioned.

From my own experiences and observations in shipping honey for sixteen years, and seeing it shipped by others, I find that the shipper is often at fault, while at other times the fault rests with the railroad people in the handling of the honey. In the former the trouble lies in that too much honey is shipped in cans of inferior quality, placed in wooden cases that do not hold together under the great weight. I have learned that from my own experience, when I used the same kind of cans and cases. The greatest trouble is due to too light cases being used to hold the heavy cans of honey. Therefore this should be looked after, and remedied another year by using heavier boxes or cases, looking also to the quality of the cans as well.

There are instances, too, of rough handling of the honey on the road by the railroad employees. If substantial packages are used in the first place, however, then the railroad companies can be held responsible for damaged shipments due to negligent handling. The long distances that honey must be shipped here in the South, with the many transfer stations, together with more or less careless handling, makes it important that we look to good strong packages for shipping our next year's crop of honey.

There is a danger that confronts us, as producers and shippers of honey, if we do not attend to this matter promptly. It is of vital interest, as the loss of honey in shipment is so great that it not only costs the railroads a great deal of money each year, but in the end works to the detriment of the producers. Furthermore, the buyers who receive shipments only slightly damaged, and do not present a claim for the loss, may be turned against buying a commodity on which they must lose, hence will not buy again. So let us take up the matter together. Letters on the subject will be welcomed.

#### SPRING MOVING OF BEES.

All jokes aside, Dr. Miller, here is one who believes it is often better to wait till spring to move bees. I have tried it several times, and with better results. Did you ever notice colonies of bees in an apiary which has been in one place a long time become so "sot in their ways" as not to give best results? They seem to get settled down into a rut—don't do so well as new, vigorous, hustling colonies generally do. I mean this of colonies that are not manipulated very much, but remain on their stands the year round, receiving only their supers, etc., and having the surplus (which for the above reasons is not the greatest amount) removed. Leave them on the same stand next year, and they are the same; they seem slow and sluggish. Move them to a new place in the spring; stir them up, and note how much better they work. I compare them to people who have tired of their old home, have moved to a new one, and have become invigorated with new life. At the old place they were in a

rut; every thing was left to go its way; at the new, they gain a new interest; every thing is overhauled and put into better condition. The same change has an effect upon the results of the occupation, whatever that is. With bees it will be noticed very easily, if one buys a neglected apiary and moves the colonies to a new location the following spring. If moved in the fall the bees remain more or less in the old rut, or get back into the same old habits before the following spring through the long winter. The stirring-up of the bees rouses them, and the excitement causes them to use their stores, so that they are stimulated to heavier brood-rearing. The result is a rousing colony of bees and a greater amount of surplus. The best time for these moves, I find, is just long enough before the expected-honey flow to allow the young bees, raised on account of the move, to be old enough for it.

## GLEANINGS FROM OUR EXCHANGES

By W. K. MORRISON

#### SACCHARINE — BEWARE!

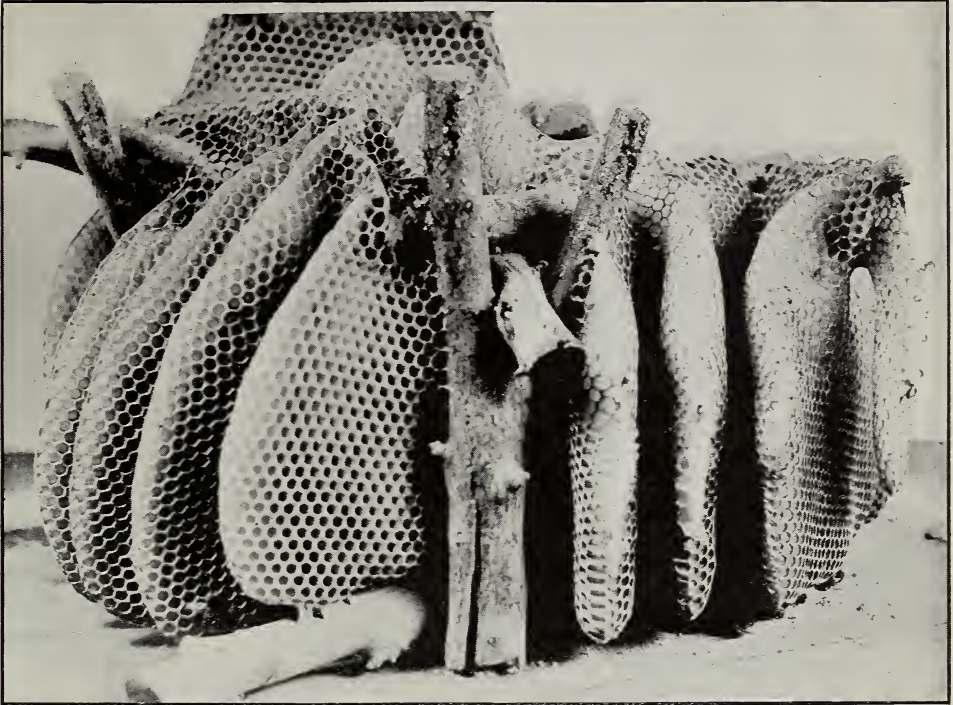
That reliable journal, *The Louisiana Planter*, is responsible for the statement that saccharine is being sold right now in New Orleans. It says: "And it is doubtless utilized by manufacturers of syrups as a cheaper way of obtaining the necessary degree of sweetness, without paying the cost of the proper sugar to produce the desired sweetness."

This is an important statement, as the general effect of saccharine is equal to a slow poison by causing the food to remain undigested. It neutralizes the action of the digestive ferments, and in this respect resembles formaldehyde. Beekeepers will be obliged to register a protest against the sale of this insidious substitute for real sweet. We ought to have a national law prohibiting its sale for food, and even its manufacture should be regulated. It is derived from coal tar.

#### DEATH OF A PATRON OF APICULTURE.

The death is announced of M. Leon de Bruyn, formerly Belgian Minister of Agriculture. He is very gratefully held in remembrance by Belgian bee-keepers, because during his term of office he did so much for the bee-keepers of his country, being extremely liberal in giving their societies needed assistance. With the exception of Switzerland, Belgium stands higher, perhaps, than any other country in the way the bee-keepers are organized for mutual assistance and defense. Six bee-journals are maintained, and bee-keeping is taught in the agricultural schools in very good style. Bee-keeping is followed in a scientific fashion, and every thing is done to promote a truly efficient system of keeping of bees. This healthy state of affairs is in no small part due to M. Leon de Bruyn. He was 70 years old when he died, and was a member of the senate.





NATURAL-COMB BUILDING IN A HIVE MADE ENTIRELY OF GLASS.

## THE BEE AS A SUBJECT FOR NATURE-STUDY.

### Natural Honey-comb.

BY EDWARD F. BIGELOW.

Most of us apiarists who lay stress on the economic point of view have buried the natural in the artificial. How few who have confined their attentions to the right-angled frames of the modern hive really know what honey-comb is? Of course, now and then it is seen when the bees recklessly build in some section where the starter was not in good shape, or when they build in some portion of the hive not filled out with frames. Most bee-keepers at some time in their life have satisfied their longing for the wild in a fascinating ravaging of a bee-tree. Within such a hollow the honey-bees are themselves. Here they plaster and twist and turn and press, and extend upward and downward in most delicious bendings. It is easy to make a transparent hollow-tree, or, in other words, to have a hive into which one can see through top, sides, and end, and so that the bees can build in any manner to suit their fancy as freely as they could in a tree. All that is necessary is five pieces of glass of almost any size that is preferred; but the five pieces must be so related to each other that they may be assembled to form the top, the two sides, and the two ends of an inverted box. The pieces of glass are easily held together by passe-partout binding. Fasten to a board some form of rustic branching to

suit one's fancy, and invert over it the glass box. Then the fun begins. The bees are unhampered. As soon as the swarm has been put into the box the bees begin work to suit themselves, not to please Mr. Hoffman nor any other person who would restrain the natural traits of the honey-bee within artificial limits.

Herewith is a photograph of an excellent example of honey-comb within one of these passe-partout hives. I have spent a good deal of time with various forms of observation hives, but have come to the conclusion that, for watching and studying the honey-bee when from every point of view it is unhampered, there is nothing like this simple inexpensive glass box. There is surely nothing more convenient for observation from every side, and nothing wherein the honey-bee is left so thoroughly free to pursue her own sweet will. It is really an old-fashioned box hive made transparent.

Of course it is necessary to keep such a hive within doors. Warmth and darkness may be easily provided by blankets or some other opaque cover thrown over the hive when its interior is not to be examined.

Try one and "live happy for ever afterward."

### HONEY-BEES AND POLLEN MASSES.

There is no more interesting question pertaining to honey-bees than the manner in which they gather pollen and carry it on their legs; and the more closely one watches the bee on a flower, the more deeply is he puzzled to know exactly how the work is done. The closer the view of the



POLLEN MASSES ON LEGS OF BEES.

Several show side hairs (like stakes on a hay-wagon), to hold on the load.





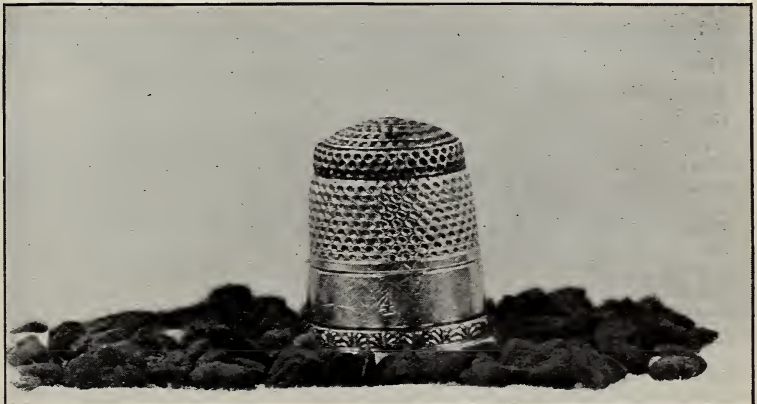
BEES WITH MASSES OF POLLEN ON THEIR LEGS.

Note the bee in the lower right-hand corner, with two masses of pollen almost as large as its body.

legs and the pollen masses, and the greater the magnification used for the observation, the deeper becomes the wonder as to the whole process. Bees cover themselves with pollen so that frequently when they fly from bloom to bloom the particles drop to the ground. Yet notwithstanding this apparent haphazard gathering there is a method in the process, since some of the pollen is regarded as mere litter, while the rest is a desirable load, for a certain definite amount is, by a mysterious process, transferred to the place designed for it on the flattened legs.

One bright and beautiful day in May I noticed that the bees were coming in with loads larger than usual, and that these were not uniform in color. There were various shades of yellow and orange, and now and then a bee arrived with a burden that was deep pink or even red. I immediately got my collecting-bottle with a liberal supply of chloroform. With bottle in one hand and tweezers in the other I stood over the open hive with two or three frames out. As here and there I saw a honey-bee running with a liberal load, I picked her up and put her in the sleep-bottle. The chloroform immediately quieted the captives and prevented them from dashing about the

bottle and shaking off the pollen masses. Then I took the pile of bees and photographed it to show that the masses were huge in comparison to what one would suppose the bees could carry. In some cases the two masses were almost as large as the abdomen of the bee that was carrying them. The photograph shows the location of the packing on the legs, but it is to be regretted that the art of photography does not yet show color. The pile as it lay before my camera was indeed beautiful. I then removed some of the pollen masses and scattered them along on the "optical bench," placing a thimble so as to show the relative size, and took another photograph as is shown herewith. So far as my observations extend, there are never two colors of pollen in any one mass. I took pains to crush or (with a needle) to tease apart some of the masses, but I could not find a single instance where there was more than



MASSSES OF POLLEN TAKEN FROM LEGS OF BEES.  
These were photographed with a thimble to show the relative size.

one kind of pollen in the same mass. It is true I believe that the honey-bee gathers only one kind for each load; but it is not true, as I have sometimes heard it stated, that all the bees of the hive work at one time upon one kind of flower. The conditions in regard to pollen-gathering make this self-evident; and since many bees were coming in laden with nectar, it seems probable to me that there was as much diversity in the variety of nectar as there was in the variety of pollen.

Here is a wide field for further experiment, and I intend to work in it extensively next summer. I am wondering what materials will be accepted by honey-bees as a substitute for pollen. One of the most interesting communications that has come to me along that line is from a child who wrote me that her mother scattered red pepper on a certain flower-bed in early spring to keep the dogs from digging it up. To the great surprise of my correspondent and of her mother, the bed was immediately covered by honey-bees, and, so far as could be observed, they were carrying off the tiny grains of red pepper, picking them out

thicker than usual, yet it seems to be something more than jelly, being more like a very thin wax. It surely does not appear to be material on the egg, for a careful examination shows that there is nothing adhesive on either end of them. I must confess that the process is not yet clear to me, but it is indeed interesting to have a side view of the bottom of a cell, and to see the egg standing erect on the tiny "teeing" mass of supporting material. The egg is curved, and a curious thing is that it seems to develop unevenly throughout its length, doing so more rapidly at one end than at the other. As this development continues, the egg from above downward becomes limp, and gradually turns down in a way that is somewhat similar to that of a wilting plant which bends first at its tender tip, the withering gradually extending down the stronger stalk. This bending, although the resemblance is remote, reminds me of the skunk-cabbage fruit which slowly bends downward as winter approaches.

This is a wide field for investigation, and one that is fascinating. I show herewith by a photo-

micrograph a curved egg in position at the bottom of the cell. It required a great amount of time and much careful manipulation to produce this, and, notwithstanding my pride in it as an excellent specimen of photomicrography, I must admit that it is far from doing justice to the subject. When magnified under a strong reflected light, eggs are beautiful objects, as they are apparently enveloped in filmy lace, which can not be shown in a photograph, as I have not been able, after repeated attempts, to picture these reticulations. It is, indeed, not shown to advantage on the ground glass, and, of course, if it does not appear well there it can not be transferred to the sensitive plate. A view of it under the compound microscope shows it to be a superb object.

I often wonder why so many collectors of birds' eggs rave over the wonderful beauty of those objects, and become so interested in collecting them. No birds' eggs with which I am familiar are so interesting as the eggs of insects; and among these, so beautiful in form and in ornamentation, none seem to me quite equal in attractiveness to the eggs of the queen honey-bee.

Stamford, Conn.

[In regard to the manner in which eggs are attached to the base of the cell, it is interesting to note what some of our standard authors have to say. Cowan, in "The Honey-bee," says: "She . . . deposits at the base of the cell, to which it is attached by a glutinous secretion, a little bluish-white oblong egg." Cheshire, in "Bees and Bee-keeping," Vol. I., makes the definite statement that "The oviducts are provided with secretion cells, which coat the egg with an agglutinative body, so that, as it leaves the queen, it adheres by its smaller end, as before pointed out."

These opinions indicate that the adhesive substance is on the egg and not on the base of the cell. It seems probable that this is the case, since



EGG OF THE QUEEN.

This was photographed in position (on end) at the bottom of the cell.

from among the particles of earth. If honey-bees like that kind of food they will surely maintain their reputation for "hotness" in more senses than one.

#### THE EGG OF THE QUEEN-BEE IN POSITION.

All who have had any experience with honey-bees have observed the workers cleaning out the cells, after which the queen hovers over them, and, after a little hesitation, backs with her curved abdomen into one of these renovated apartments and there deposits her crescentic egg. I have always been desirous of seeing in microscopic detail exactly what happens at the bottom of that cell, and how the egg is held in position. It appears that there is a tiny particle of a sticky material in the bottom of the cell, and I am disposed to think it is placed there by the worker bee, and that it is of the same material as the royal jelly, or of some very similar substance. Perhaps the royal jelly has been made a trifle





ONE OF THE OUTYARDS OF W. L. COGGSHALL.—PHOTO BY VERNE MORTON.

eggs laid by inferior queens are often attached to one of the sides of the cells rather than to the base, and it is hard to conceive of workers placing the adhesive material on the sides, only for a defective queen.—Ed.]

### W. L. COGGSHALL.

**The Man and his Methods of Management;  
the Most Extensive Bee-keeper, Per-  
haps, in the United States.**

BY E. R. ROOT.

While in attendance at the Detroit convention I met Mr. W. L. Coggshall, of Groton, N. Y., whom our older readers will remember as being, probably, the most extensive bee-keeper in the United States, or at least that was the title he had earned several years ago. Prior to that time, Capt. J. E. Hetherington, of Cherry Valley, N. Y., held that honor; but during his later years, owing to ill health, his bee-keeping interests diminished while those of Mr. Coggshall, of the same State, materially increased. At one time the latter owned one or more apiaries in the West, and some eighteen or twenty yards in his own State, and one or two in Cuba. I do not know at the present time how extensive his holdings are in bees; but it is my opinion that, during the four bad years that have recently held sway over Cuba, his interests there have materially shrunk.

#### HIS MANAGEMENT OF OUTYARDS.

Our friend W. L. Coggshall, in connection with his brother David, has a larger interest in bees in New York than perhaps any other two men. They believe in the out-apiary plan, keep-

ing from 50 to 100 colonies at a yard. At each of these places there is a small building with a complete extracting equipment, for the Coggshalls run almost exclusively for extracted honey. Bees are wintered mainly in outdoor double-walled hives. Some of the hives are on the tenement plan, and some hold only a single colony. The yards are located as advantageously as possible in the fruit sections, and anywhere from a mile and a half to three miles apart. The most remote yard at the time of my visit several years ago was something like twenty miles from home. Owing to the lay of the land, and the lakes in the vicinity, it is not possible to arrange all the apiaries so that they will radiate from a common center like the spokes of a wheel. The apiaries, as I remember them, were located in a valley between parallel lakes north and south.

No man is kept at any of the yards to look after swarms; for with Mr. Coggshall's management, providing he is not too much crowded, there will not be many swarms. The yard helpers all live at the Coggshall residence, which is shown in the small picture herewith. By this it will be seen that Mr. Coggshall is an extensive farmer; and when work is slack in the bee-yard the boys are turned loose on the farm. During the season the men are divided into one or two groups, sometimes going with the horse and wagon, and sometimes going on bicycles. It often happens that one of the men will take the wagon while the others will take the wheels to the yards. The wheelmen get things well started, so that, by the time the wagon arrives, a good portion of the honey for the day is taken off. After extracting one yard the gang will move to another one, sometimes extracting two whole yards in a day, and that, too, with a non-reversible extracting-machine of the Coggshall pattern.





AN OUTYARD OF W. L. COGGSHALL, SHOWING TENEMENT HIVE USED.—PHOTO BY VERNE MORTON.

#### HIS INTENSIVE METHODS.

The boys are all trained to work rapidly, even if a few stings are received; for it must be remembered that the Coggsall "lightning operators" all wear sting-proof suits and veils, long sleeves reaching down somewhat in the form of a fingerless glove protecting the hands but not the fingers, for the fingers are seldom attacked. The combs are brushed and shaken to free them from bees. Bee-escapes would be impracticable with the method in use by Mr. Coggsall, for the reason that it is impracticable for any one to go to the outyard and put on bee-escapes the night before.

This rapid method of taking off the honey naturally irritates the bees, and this has an advantage in one way at least, for the yards are seldom or never molested by thieves; for should a tramp or other person not familiar with the Coggs-

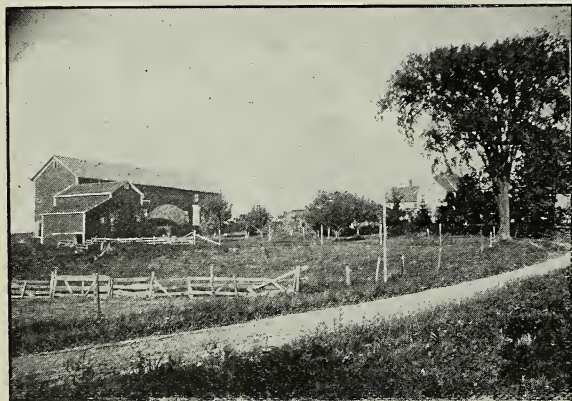
shall bees attempt to help himself he would meet with a "warm reception."

#### COGGSHALL AND THE VICIOUS BULL.

At one time a vicious bull felt inclined to give Mr. Coggsall more or less trouble every time he attempted to go to a certain yard, for he had to cross the field to get to the bees. Now, Mr. Coggsall knew the temperament of his pets; but Mr. Bull followed him up and began pawing the air as if about to make a rush. Our friend edged along toward his apiary until he got near one of his hives. In the mean time the bull was closing in, apparently awaiting a favorable opportunity to make a charge. Mr. Coggsall grabbed up, at the strategic moment, a hive from its bottom-board, rushed at the bull, and threw it violently on the ground. The frames, well covered with bees, were of the unspaced type, and fell in a tangled heap on the ground within a few feet of old Taurus. The effect was almost instantaneous. The bull changed his roar; he sniffed and snorted, rubbed his nose in the grass, then wheeled, raised his tail, and started on a mad run away from his little tormentors, a sadder and wiser bull, leaving Mr. Coggsall in undisputed possession of the field. Never after that time did that bull venture to interfere; and even when teased to make another attack he was "mighty tame" as the boys said.

#### HOW COGGSHALL TAKES OFF HIS HONEY.

But, to return, I said the combs are brushed and shaken from the hives. They are next set down into hive-bodies on a wheelbarrow or hive-cart. When I visited him he had four of such hive-bodies standing on a two-wheeled cart.



RESIDENCE AND FARM BUILDINGS OF W. L. COGGSHALL, GROTON, N. Y.—PHOTO BY VERNE MORTON



When these were full of combs they were wheeled into the extracting-house, and a load of empties brought back to take the place of those removed.

#### HIS METHOD OF WINTERING.

Mr. Coggs shall, notwithstanding the general practice of bee-keepers in the vicinity, of wintering indoors, keeps his bees outdoors in double-walled hives, and there they are left the entire year. His apiaries are worked on the intensive plan, being visited only a few times during the year—in the spring, during the extracting season as often as needed to take off the honey, and once or twice in the fall to put the bees in condition for winter.

#### HOW HE HANDLES THE SWARMING PROBLEM.

While I was visiting some of Mr. Coggs shall's neighbors, one of them said he knew of one yard where he thought Coggs shall had lost a good many swarms. I mentioned this to Mr. C. in a later interview, and he told me that that yard was remote from his home, and that season it had been somewhat neglected, owing to his inability to get help. The bees had become overcrowded, and, of course, swarmed. "But," said he, with a twinkle in his eye, "I could better afford to let, even under these conditions, a few swarms run away, than to hire a man to see to the bees all the time, as is the practice of some bee-keepers. At the price my honey brings, I can not afford to keep one man for each yard; and for that matter I do not believe any one else can if he stops to figure up the costs. But," said he, "I can

raise bees for fifty cents a colony; and suppose eight or ten swarms do go, only five dollars is lost, and that would pay a man for only half a week's wages. No, sir; my help and four or five men can manage the whole twenty yards, and do considerable other work."

#### HOW HE SUCCEEDS WHEN OTHERS FAIL.

Mr. Coggs shall is a genius in that he will buy up yards that do not pay their owners to run, and very often in one season he will make that lot of bees give him a good profit in one season over and above the cost of the yard; and, stranger still, he will make those bees pay in any frame or hive, although his preference is decidedly for the old-style Langstroth frame with a staple at the bottom of the end-bar, and the ordinary Langstroth hive.

Mr. Coggs shall has been a very hard worker in his day; but during the last few years he has found it necessary to husband his strength, as he found he was overdoing. I believe he now simply furnishes the "brains" and lets his men do the work.

#### WORKING THE BEES AND THE FARM.

I do not know how he manages to prevent his farm and bee work from conflicting; but I am of the opinion that he does it on the basis of growing certain crops, the harvesting of which will not interfere with his extracting season; for it must be remembered that his main honey crop is from buckwheat, and that most of the extracting takes place some time after the main honey harvest of clover and basswood.



DOUBLE-WALLED HIVES USED BY W. L. COGGS SHALL AT ONE OF HIS OUTYARDS.—PHOTO BY VERNE MORTON.





CONVENTION OF THE NATIONAL BEE-KEEPERS'

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| 14 Frank Kittinger, Caledonia, Wis.  | 48 John Jeffrey, Denton, Mich.             | 82 J. W. Newton, Thamesford, Ont.      | 116 D. Silver, Ne |
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| 16 Harold Current, Dunkirk, Ind.     | 50 A. F. Ferguson, Rogersville, Pa.        | 84 James Armstrong, Cheapside, Ont.    | 118 Bessie McR    |
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| 18 Jay North, North Adams, Mich.     | 52 J-sse C. Legg, Lyons, Ont.              | 86 A. D. D. Wood, Lansing, Mich.       | 120 Stephen S. h  |
| 19 Clyde Godfrey, Jonesville, Mich.  | 53 Unknown.                                | 87 C. W. Challand, Marburg, Ont.       | 121 J. L. Faulk,  |
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| 28 D. Williamson, Durand, Mich.      | 62 A. J. Parish, Cadmus, Mich.             | 96 R. D. Mills, Highland, Mich.        | 130 Unknown       |
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| 30 W. J. Robb, St. Thomas, Ont.      | 64 H. E. Bliss, West Winfield, N. Y.       | 98 Chalton Fowls, Oberlin, O.          | 132 W. S. Cal     |
| 31 Wm. A. Hill, St. Thomas, Ont.     | 65 Oscar Smith, Caledonia, Mich.           | 99 Unknown.                            | 133 Unknown       |
| 32 E. M. Hunt, Lansing, Mich.        | 66 J. F. Moore, Tiffin, O.                 | 100 E. L. Hall, St. Joseph, Mich.      | 134 Unknown       |
| 33 L. A. Aspinwall, Jackson, Mich.   | 67 Ira D. Bartlett, East Jordan, Mich.     | 101 O. L. Hersher, Kenmore, N. Y.      | 135 J. L. Bye     |
| 34 Geo. E. Scott, St. Louis, Mo.     | 68 Huber H. Root, Medina, O.               | 102 Elias E. Coveyou, Petoskey, Mich.  | 136 R. O. Gou     |





CONVENTION OF THE NATIONAL BEE-KEEPERS' ASSOCIATION, HELD IN DETROIT, OCT. 13, 14, 15.

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| 7 J. U. Swisher, West Unity, O.      | 41 A. G. Woodman, Grand Rapids, Mich.      | 75 L. B. Huber, Landis Valley, Pa.     | 109 D. Running, Grindstone City, Mich.   | 143 Mrs. Oscar Smith, Caledonia, Mich.   | 177 D. E. Lane, Dexter, Mich.             | 211 Unknown.  |
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| 9 J. L. Lewis, Dimondale, Mich.      | 43 J. H. Moore, Ionia, Mich.               | 77 E. A. Dittich, Indianapolis, Ind.   | 111 W. Miller, Ciclawell, Mich.          | 145 W. K. Morrison, Medina, O.           | 179 George Todd, Jeddo, Mich.             | 213 Unknown.  |
| 10 Geo. J. Stray, Coldwater, Mich.   | 44 C. V. Carter, Applegate, Mich.          | 78 Mrs. E. W. Brown, Mottin Park, Ill. | 112 Mrs. E. C. Richardson, Adrian, Mich. | 146 Unknown.                             | 180 Unknown.                              | 214 Mrs. S. T. Stewart, Tecumseh, Mich.             |
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| 14 Frank Kittinger, Caledonia, Wis.  | 48 John Jeffrey, Denton, Mich.             | 82 J. W. Newson, Thamesford, Ont.      | 116 D. Siver, Northville, Mich.          | 150 Miss E. Abelson, Ypsilanti, Mich.    | 184 O. M. Robertson, Eaton Rapids.        | 218 F. B. Cavanagh, Boscobel, Wis.                  |
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| 16 Harold Current, Dunkirk, Ind.     | 50 A. F. Ferguson, Rogersville, Pa.        | 84 James Armstrong, Cheapside, Ont.    | 118 Bessie McRae, Glencoe, Ont.          | 152 E. E. Lawrence, Doniphan, Mo.        | 186 N. A. Knapp, Rochester, O.            | 220 Fred W. Muth, Cincinnati, O.                    |
| 17 Geo. W. Williams, Redkey, Ind.    | 51 Edward Wilson, Whittemore, Mich.        | 85 Jay Cobb, Lorain, O.                | 119 Chas. Baker, Jr., Flint, Mich.       | 153 Unknown.                             | 187 Fred A. Hund, Moline City, Mich.      | 221 Mrs. F. W. Muth, Cincinnati, O.                 |
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| 21 Herb. J. Mauley, Sandusky, Mich.  | 55 John L. Sims, Williamston, Mich.        | 89 E. C. Richardson, Adrian, Mich.     | 123 W. B. Haggadone, Oxford, Mich.       | 157 M. E. Darby, Springfield, Mo.        | 191 E. F. Phillips, Washington, D. C.     | 225 J. W. Cook, Highland Park, Mich.                |
| 22 John Whitam, Kings City, Cal.     | 56 F. J. Strittmatter, Ebensburg, Pa.      | 90 Mrs. A. A. Parish, Cadmus, Mich.    | 124 David Anguish, Lambeth, Ont.         | 158 Mrs. H. E. Bliss, W. Winfield, N. Y. | 192 J. A. Gilman, Honolulu, T. H.         | 226 A. H. Guensey, Ionia, Mich.                     |
| 23 Stephen Hill, Port Huron, Mich.   | 57 Arthur Rattray, Almont, Mich.           | 91 C. B. Hatton, Andover, O.           | 125 Mrs. Chalton Fowls, Oberlin, O.      | 159 A. F. Mouley, Baroda, Mich.          | 193 Mrs. W. R. Claussen, Waupaca, Wis.    | 227 Jacob Haberet, Zurich, Ont.                     |
| 24 Leonard S. Griggs, Flint, Mich.   | 58 Earl Reid, Almont, Mich.                | 92 G. A. Bleech, Jerome, Mich.         | 126 Orville Jones, Stockbridge, Mich.    | 160 Mrs. J. L. Evilboch, Newago, Mich.   | 194 Geo. E. Hilton, Fremont, Mich.        | 228 Mrs. Jacob Haberet, Zurich, Ont.                |
| 25 W. N. Haggadone, Oxford, Mich.    | 59 E. J. Bell, Grosse Isle, Mich.          | 93 E. R. Root, Medina, O.              | 127 T. F. Bingham, Farwell, Mich.        | 161 W. D. Soper, Jackson, Mich.          | 195 Geo. W. York, Chicago, Ill.           | 229 Mrs. E. B. Tyrrell and children, Detroit, Mich. |
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| 27 Mrs. D. Williamson, Durand, Mich. | 61 W. J. Rowley, Leonard, Mich.            | 95 L. K. Feick, Wolverine, Mich.       | 129 E. T. Carr, Bowling Green, O.        | 163 Geo. J. Friess, Hudson, Mich.        | 197 Chas. Bootes, Potter, N. Y.           | 231 Unknown.  |
| 28 D. Williamson, Durand, Mich.      | 62 A. J. Parish, Cadmus, Mich.             | 96 R. D. Mills, Highland, Mich.        | 130 Unknown.                             | 164 Walter Harmer, Manistee, Mich.       | 198 Dr. G. Bohrer, Lyons, Kan.            | 232 Unknown.  |
| 29 W. C. English, Manchester, Mich.  | 63 G. E. Bacon, Watertown, Wis.            | 97 Mrs. J. E. Bocy, Jackson, Mich.     | 131 A. Middlebrook, Clinton, Mich.       | 165 Mrs. E. Dickenson, N. Glanford, Ont. | 199 James Storei, Lindsay, Ont.           | 233 W. H. Mears, Chicago, Ill.                      |
| 30 W. J. Robb, St. Thomas, Ont.      | 64 H. E. Bliss, West Winfield, N. Y.       | 98 Chalton Fowls, Oberlin, O.          | 132 W. S. Carrico, Florissant, Mo.       | 166 E. Dickenson, Jr., N. Glanford, Ont. | 200 R. F. Holtermann, Brantford, Ont.     | 234 E. N. Woodward, Hillsdale, Mich.                |
| 31 Wm. A. Hill, St. Thomas, Ont.     | 65 Oscar Smith, Caledonia, Mich.           | 99 Unknown.                            | 133 Unknown.                             | 167 Wm. T. Davis, Stratford, Ont.        | 201 E. B. Tyrrell, Detroit, Mich.         | 235 Unknown.  |
| 32 E. M. Hunt, Lansing, Mich.        | 66 J. F. Moore, Tiffin, O.                 | 100 E. L. Hall, St. Joseph, Mich.      | 134 Unknown.                             | 168 W. L. Coggs, Gt. Gt. N. Y.           | 202 C. F. Smith, Cheboygan, Mich.         | 236 A. C. Brovald, Finley, Wis.                     |
| 33 L. A. Aspiwall, Jackson, Mich.    | 67 Ira D. Bartlett, East Jordan, Mich.     | 101 O. L. Hershiser, Kenmore, N. Y.    | 135 J. L. Byer, Markham, Ont.            | 169 Wm. McEvoy, Woodburn, Ont.           | 203 C. H. W. Weber, Cincinnati, O.        | 237 C. D. Hatton, Simons, O.                        |
| 34 Geo. E. Scott, St. Louis, Mo.     | 68 Huber H. Root, Medina, O.               | 102 Elias E. Coveyou, Petoskey, Mich.  | 136 R. O. Gould, Smith, Mich.            | 170 Mrs. Phebe Mabie, Detroit, Mich.     | 204 Law. France, Platteville, Wis.        |   |





THE ALEXANDER APIARY, FROM THE NORTHWEST.  
There is probably not another apiary in the world consisting of 700 colonies.

## THE LAST DAYS OF E. W. ALEXANDER.

Details of a Visit as Told by a Friend;  
Japanese Buckwheat not Considered  
as Desirable as the Silverhull.

BY PERCY ORTON.

Being desirous of enlarging my home yard to its full extent I made a trip to the home of my friend E. W. Alexander, to see the farms and growing buckwheat, in order that I could better compare it with our own section. The distance is about 50 miles. On the trip I passed through Mayfield, the home of George W. Haines, and I could see through the car window his apiary of 150 colonies. Mr. Haines is situated near the lower Adirondacks, about ten miles west of my home, in a very fine location. He harvested about four tons of extracted and comb honey this year.

I also went through Johnstown, the home of Mr. Chas. Stewart, the State Bee Inspector for this section. Mr. Stewart has started a yard in the city, and has in his four yards about 450 colonies. From Schenectady to Delanson, a distance of 15 miles, I estimated the number of acres of buckwheat, and I could not count more than 45

acres. I am a farmer, and can judge the size of fields fairly accurately.

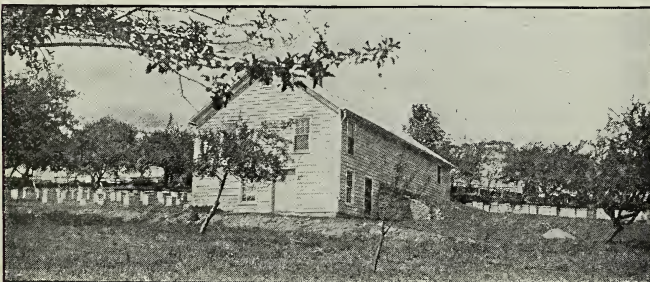
I arrived at Mr. Alexander's home about 11 A.M.; took dinner and had a good visit, but was pained to find him in such poor health. However, he felt just as free as he always did to tell any thing he could to help another bee-keeper.

He was very much interested when I asked him if the farmers liked Japanese buckwheat as well as silverhull or gray, and if his bees worked on it as well as on the latter. He said the farmers did not get as many bushels per acre from the Japanese buckwheat, as it grows so many false kernels, and he said that he would not give 15 cts. an acre for it as a honey-producer—that his bees would fly right over fields of the Japanese to the silverhull and gray. I was glad to hear so noted a bee-keeper say this, as I have found by years of experience with both that the Japanese is not as good for honey as for flour, the yield of flour on an average being but 20 lbs. per bushel. All through our valley we grow silverhull, and get from 25 to 34 lbs. of flour per bushel, and plenty of honey.

I looked over the buckwheat-fields that could be seen from the apiary, and came to the conclusion that the 700 colonies of bees never reach one-fourth the buckwheat that many people think they do. I don't mean to say any one has mis-

represented any thing, but I believe that most bee-keepers can keep four times as many bees in one yard as they do now.

Before closing I want to say a little about black brood. If any one finds his combs are affected, the queen should be caged and empty combs or frames of foundation placed above the zinc over the old hive, and the queen released into the top story. In 30 days the



ALEXANDER HONEY-HOUSE AND APIARY, FROM THE SOUTH.



honey from the old hive can be extracted and the combs used anywhere in the yard. If the colony is of fair size to start with the plan works well with me.

Northampton, N. Y.

## BEE-KEEPING IN CALIFORNIA.

### Prices in 1909.

BY M. H. MENDLESON.

There are a few carloads of amber and light-amber extracted honey remaining in the producers' hands in this part of the State. The best sage comb honey is at a premium; there has not been such a scarcity of this grade for years. The market will be well cleaned up by another season; and since there was considerable loss of forage in the East from drouth and fire, prices for 1909 ought to stiffen.

Prices here are now ruling high. White honey is at a premium; comb honey is scarce, and the demand extra good.

### OLD HONEY OF GOOD QUALITY.

Dr. Miller, p. 1303, I have sage honey 14 years old, and the flavor is better than when it was extracted. It is delicious. I have had sage comb honey, kept in dust-proof shipping-cases, in a warm dry room, free from odors, for a number of years, and the flavor improved. It was superior to any fresh comb honey I had ever eaten.

PHACELIA FOR  
HONEY AND  
FORAGE.

Replying to  
Dr. Miller's  
Straw, page  
1243, Oct. 15,

I will say that I have noticed two varieties of phacelia. The better honey-producer of the two has a floral stem of a shape and size that might be compared to a large caterpillar. This variety has an abundance of purple bloom. The honey is water-white, and of fine flavor; but it candies, soon after it is extracted, to the consistency of fine paste. I was at one time extracting some of this honey, putting it in a seven-ton cone-top tank, and before the tank was full the honey commenced to candy at the bottom; and when full I had to run a pole down to the faucet before I could get the bulk of the honey to run into the 60-lb. cans. I had to shovel out over two tons with a long-handled shovel. I then had to tip the tank on its side and fill open-top five-gallon cans so that the honey could be melted on the stove. This was an experience with candied

honey that I shall always avoid hereafter. I drew off considerable of the honey while extracting, but the work was all done within ten days. I never had honey candy so rapidly.

In regard to phacelia as forage, I will say that cattle will eat it when the better forage gets scarce. It grows wild on the mountains, especially after a fire, and also when stock eat the pasture off clean. Of course, when stock keep the pasture fed off too close it kills or destroys, as the source of seeding is destroyed.

### HONEY FROM IRRIGATED ALFALFA.

Hanford, Cal., produces an average of 53 carloads of honey a year. Hanford is about 250 miles north of Ventura Co., in Central California. The honey is gathered from the irrigated alfalfa, and is light amber in color, but pleasant in flavor.

COLONIES WITH PLENTY OF STORES FOR WINTER  
ARE THE STRONGEST IN SPRING.

On my ranges I like 40 to 50 lbs. or more of honey for winter stores. Colonies with good vigorous queens, and rich in stores in June and July, continue brood-rearing much later, and go through the winter strong in numbers, and with vigorous young bees. In spring they are ready to swarm early. Other colonies, with scant stores, quit breeding early and come out weak in numbers,



HOME OF FRANK ALEXANDER, NEAR DELANSON, N. Y.

and the seasons are well advanced before they get in the proper strength for business; or, in other words, the strength in spring depends on the amount of stores left on the previous season. The extra honey is money on big interest; for if we have a cool, cloudy spring, there is but little check in brood-rearing. The past three years we have had these late cool springs, and those few colonies with extra amount of honey, gave rich results.

Previous to 1905 the majority of my bees were at the coast. I did not get half the surplus I should have secured, on account of the heavy fogs and cool coast winds. The fogs did not rise until about 10 A.M., and sometimes whole days were foggy. In such cases, bees have much less time to gather nectar, and that which they do bring in does not evaporate so well, and invari-





THE HONEY-TANKS UNDER MR ALEXANDER'S EXTRACTING ROOM; EACH OF THESE TANKS WILL HOLD FIVE TONS OF HONEY.

ably granulates. I had one of these locations that, in good seasons, never gave me over 75 to 150 lbs. of honey per colony, while those away from the coast would give me over double that amount. In 1892 (a poor year) the coast bees secured plenty of honey for the winter, as they had considerable old stores on hand in spring. The queens were superseded by better stock. I put on extra supers of fine worker comb, and many of my neighbors extracted some honey, some taking off from one to two tons, to their sorrow afterward. In the fall some had to feed back to keep the bees from starvation. My bees were left with 50 to 150 or more pounds of honey per colony, and in spring they came out rich and strong with vigorous young bees. We had the usual foggy weather and an unusually cool backward spring. The bees got only enough to stimulate brood-rearing. The results were, that all this great amount of surplus left over the previous fall made it possible for the colonies to rear a tremendous force of bees. In a few days we had clear weather, and the honey just flowed in at the rate of over 300 lbs. per colony, on a range that previously produced from 75 to 150 lbs. of surplus per colony.

#### MANY APIARIES MOVED.

Over 40 carloads of bees were moved out of Southern California last spring to better forage in the alfalfa-fields on the eastern borders of the State—a new section for honey-production. I was informed that many places were overstocked with bees, and yet it saved many of our friends from great loss.

#### WEATHER REPORT.

We have reports of heavy rains and snow in

Northern Arizona, lasting a number of days. If this report is true, it will be followed by a wet winter here. We are having an unusual amount of cold cloudy weather for this time of year, and but little rain for some time. Nov. 22 we had about  $\frac{1}{4}$  inch of rain, and now (Nov. 24) it is cold. Many are prophesying a wet winter and a banner honey year for 1909; but we can tell better when the honey is in the can. In this section, most bees are in good condition for the winter. I shall plan to have an abundance of young selected queens coming on in early spring near the coast, where the season is two months earlier than in the mountains or best sage ranges.

Ventura, Cal.

#### TRAVEL-STAIN.

**The Cause and Remedy; a Special Honey-board Designed for Keeping the Surface of the Comb Honey Clean.**

BY J. E. CRANE.

A few years ago I sent to GLEANINGS one or two articles on the subject of travel-stain. Several criticisms followed, in which the writers seemed to regard my views on the subject as rather wild or heterodox. I had something more to say on the subject, but delayed doing so until I had more fully studied the subject and made some experiments I had in mind. Indeed, I left unsaid the most important part—the prevention of the trouble.

As it has been several years since the subject



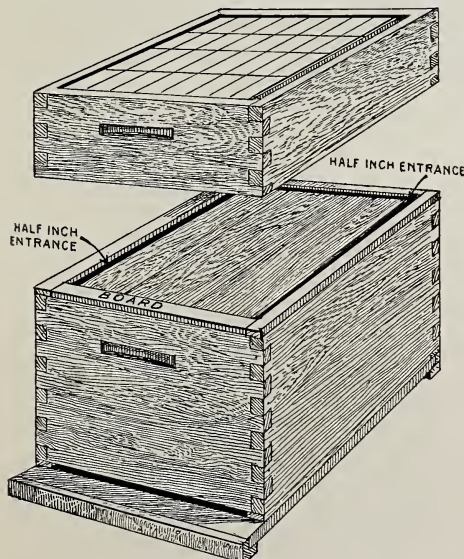
was discussed I might state briefly that the so-called travel-stain appears to be caused by, first, the bees covering themselves with pollen and entering their hives and rubbing their bodies against the combs and sides of the hives, causing a slight and sometimes considerable discoloration of the combs. I mention this, first, not because it is the most important, for it is not, with me at least. Second, the use of old wax, bits of propolis, the cappings from hatching brood, and even bits of cloth, or any thing that comes handy, mixed with new wax in various proportions for capping the new comb in sections, and so greatly injuring its appearance.

This has been a serious trouble with me, and is rather increasing as time goes on, especially in poor years. I shall not at this time try to prove that my conclusions are correct as to the cause, for I believe that any one who has given the subject careful study will agree with me. It will be my object, rather, to show what may be done to correct the trouble and overcome it, as those who were so much wiser than myself as to the cause of this trouble have given us no clue as to how it may be remedied.

As a good physician finds it necessary with every case that comes to him to make a careful and accurate diagnosis of the case before he writes his prescription, or outlines a method of treatment, so we, as bee-keepers, should very fully understand the difficulties with which we have to contend before we can hope to overcome them.

If we sit down to a bench and clean sections hour after hour we shall not be long in observing that such supers as have combs stained have the most stain near the center; or, to put it in another way, that the worst-stained combs are, as a rule, in the center, while those least colored are at the sides.

We shall also observe, if we look carefully, that the central combs of the brood-chamber are



CRANE'S HONEY-BOARD AS USED BETWEEN THE BROOD-CHAMBER AND SUPER.



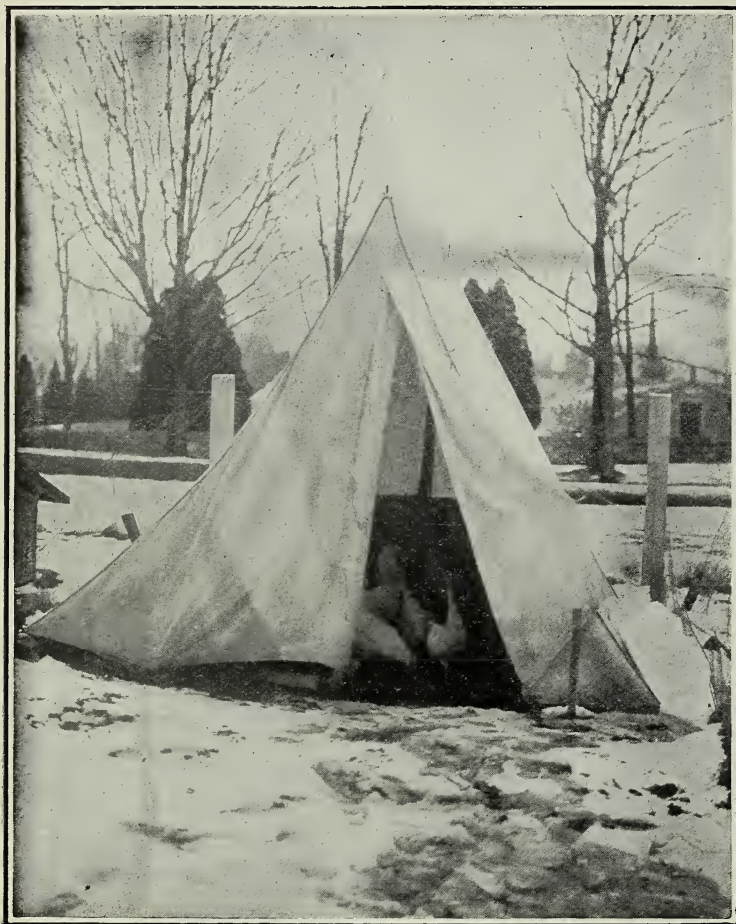
E. W. ALEXANDER IN HIS LAST DAYS; THIS PHOTOGRAPH WAS TAKEN ON THE LAST OF AUGUST.

darker than those on the outside. Indeed, it often happens that, if the combs of a hive have not been changed during the honey season, the outside combs may be quite white. Combs built outside a division-board are often of snowy whiteness. In the same way it occurred to me that there was some connection between the darker combs of the brood-chamber, where the largest part of the brood was reared, and the stained combs in the center of the super above. How could I manage so as to allow the bees to pass up into the supers and yet prevent their carrying up any dark wax or cappings of hatching brood just below?

I noticed another thing: The further the surplus combs were from the brood, the whiter they were. But it is an old maxim, that the nearer the surplus boxes are to the brood the sooner and more rapidly are they likely to be filled. I was in a dilemma; for if I made it difficult for the bees to get into the supers and carry up dark wax they were likely to store a good deal less honey. It seemed to be a case of less stain, less honey, or more honey, more stain. I could have my choice.

At last I made some honey-boards, something





A FLOCK OF WHITE LEGHORNS OCCUPIED THIS TENT ALL WINTER AT THE STATE AGRICULTURAL COLLEGE GROUNDS, STORRS, CONN.—SEE POULTRY DEPARTMENT ON ANOTHER PAGE.

I had not used for many years. I send a drawing of one of them. It is made of  $\frac{1}{4}$ -inch stuff except the strips around the outside, which are  $\frac{1}{2}$  inch thick, so as to give a bee-space of  $\frac{1}{4}$  inch between the bottom of the super and the top of the honey-board. On each side is a half-inch opening leading from the brood-chamber up into the bee-space below the super. This opening into the brood-chamber is where the combs are the lightest or least stained. The middle part of the board is what I call "the storm-center" of the travel-stain, both in brood-chamber and super.

After studying the subject carefully I came to the conclusion that such a board offered the best solution for checking the carrying-up of soiled wax from below into the super. I made quite a lot of them for trial the following season; yet so fearful was I that it would reduce the amount of honey in the supers that I used but few of them the following season; but the few I used surprised me in that the bees seemed to store just as much

honey in the super as when they were not used.

I was not surprised as to the effect the use of this board had on decreasing the stain on the combs in the super. Those sections occupying the center, instead of being the most stained were the least so, while those on the outside, while somewhat stained, were not so bad by a long way as those in the center had been without the use of a board.

I was so well pleased that later I made boards to cover most of my hives. Later experience with them has been very satisfactory. During the past season I have used them on a large portion of my hives run for comb honey. I found an occasional hive that did not appear to have finished off its combs as well as though no board had been used. It is not necessary to put the board on until the bees are

ready to cap the honey in the super, and not even then if the first super is raised up and an empty one placed under it. When they finally begin



CRANE'S HONEY-BOARD TO PREVENT TRAVEL-STAINED SECTIONS.



sealing they seem to work in the supers as well with the honey-board on as off—at least most of them do—and the improved appearance of the surplus honey well repays the trouble of using the boards.

My brood-combs are mostly old, and, of course, pretty dark, and the top-bars are thin and narrow. I think that, with thicker and wider top-bars, whiter surplus could be produced; but this may be only a fancy.

Another method of protecting surplus honey is to use, as far as possible, new combs in the brood-chamber, taking away the old combs about the time the bees begin to seal the section honey, replacing them with new white combs or foundation, or even allowing them to build new combs in the brood-chamber. If one has a surplus of old combs on hand that he desires to use he can place four of them in the center and two combs of foundation on each side with a honey-board, as above described, between the brood-chamber and super. The object is to keep old dark combs, as far as possible, from the super honey.

It is desirable to keep every thing about the hive as clean and free from propolis as possible. It is my present intention to remove slowly or exchange my old brood-combs for new ones, saving the best of the old for extracting purposes, and then melt the rest into wax. I can get from three to four pounds of wax from eight old Langstroth brood-combs; and since it requires but little more than one pound of foundation to fill them, there will be but small loss in making the change.

By the above methods I find the evil of travel-stain can be in a large measure remedied, and we have the satisfaction of having combs very much whiter than I had formerly supposed possible.

Middlebury, Vt.

## SWARM-CATCHERS.

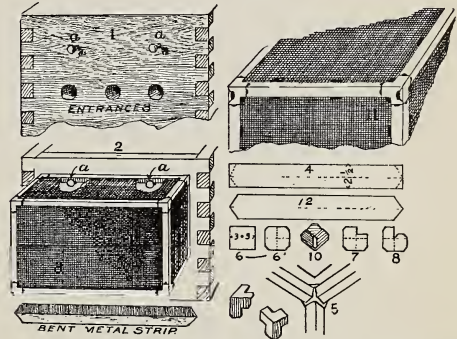
### The Advantage of Light Strong Cages which can be Quickly Placed over the Front of a Hive as the Swarm is Issuing.

BY C. W. DAYTON.

I have never seen the need of a long pole for a swarm-catcher, and it was long ago when I began to use the kind which I am about to describe. It is convenient, as we are passing to and fro, busy at other work, when we see a big swarm beginning to issue, to pick up a light cage and clap it over the front of the hive. It saves their mixing with other swarms which may be already out, and prevents their going into high trees or drifting into the yard of some pettish neighbor. This cage that I use has wire cloth upon five sides, while the other side is open. The open side fits so closely against the hive that no bees can get out. The bees will cluster rather compactly in the course of an hour. After that the catcher can be handled in almost any way. If I am not ready to hive the bees I put the catcher containing the swarm into a sack, and hang it up on the shady side of a building, or the bees can be shaken out into any confining box.

The illustration shows the front of one of my hives and the  $\frac{7}{8}$ -inch auger-hole entrances which

I have used nearly exclusively for about 20 years. I have an arrangement to enable the bees to climb up to these entrances, but it is out of the scope of this article to describe it. The three small holes prevent the swarm from issuing as rapidly as it would if an ordinary hive-entrance were used. More ventilation is necessary, but it is secured in another way rather than at the entrance.



At *a, a*, in Fig. 1 and 3 are the furniture tacks which are driven into the hives to hold the swarm-catcher. This swarm-catcher is made entirely of galvanized iron and wire cloth. The dark shaded part of the catcher shows about the usual appearance of a swarm when clustered in it.

The side rails of the catcher are made of  $2\frac{1}{2}$ -inch strips of galvanized iron of 28 gauge bent into V shape and firmly soldered to corner caps as indicated. It does not take very much time to bend enough for 5 or 10 of these swarm-catchers in case there is no tin-shop handy by.

If the bees of a swarm are kept in this screen until near night they can be hived without any of the trouble and anxiety about queens, or about the disposition of the swarm to stay hived. We always know that the bees will stay until morning, and then if they have gone inside the hive and taken possession and appear contented, it can be seen at a glance. If they are dissatisfied they usually remain partly outside all night, and do not cluster among the combs or hang on the empty frames. They act shy of every thing we furnish. When the bees act willful—that is, when they remain in close cluster and do not start to the fields to work in the morning—it is best to keep them confined for two or three days. After we furnish a colony a good hive, and stores to live on all winter, and spend our time, labor, and patience to get them built up to good working strength, and then have a great lot of old bees pull up stakes and hike away to the woods, they ought to be "put in chains." Besides swarm-catchers I have about 20 boxes of simple and cheap design into which I can shake bees. It is no use to put the bees in a hive until they are in want of it. They will realize the need of one sooner if they are clustered without hive or combs. The object of the catcher is quick adjustment. When we see a swarm beginning to issue we need to get there quickly. I usually set my extracting-house or work-shop as much among the hives as possible, and the hives facing toward it as much as possible. Instead of using one or two small screened windows I have a 24-inch screen extend-

ing entirely around the building. I set the extractor and capping-cans so that the operator faces the hives so that his eyes can glance out across the bee-yard. A woman or even a child can manage the swarms from 200 or 300 colonies if they have a good equipment of catchers; and they can sit in the shade and sew or read most of the time, no matter how fast the swarms come out. There will be no mixing. In some large apiaries it is often that a small-sized swarm may issue, and by the time it clusters it will be the size of a bushel basket. It happens more often in California than it did in the East, unless the East has changed since I lived there. It is because the flying bees coming from the fields join the swarm. It makes trouble with the queens when these strange bees "mix in," and perhaps a very valuable queen is lost. It injures a queen to be balled or attacked.

I have 150 drone or queen traps, and have used them several years to control swarming, but I consider them a hindrance to the bees. If I wish to leave home for a day or two I go through the apiary early in the morning, and put traps on those colonies which are roaring loudest. If the entrances are large there will be no roaring. My traps are arranged so as to hook on nearly the same as this swarm-catcher. It takes only a few moments to arrange a hundred colonies so that we can safely leave the apiary. I have kept from fifteen to forty colonies for four or five years having no bottom-boards at all, and those colonies on the average have swarmed first and as frequently as any of the other colonies.

Chatsworth, Cal.

## BEE-KEEPING A FASCINATING PURSUIT.

### An Enthusiastic Report of a Beginner's Experience; a Good Earning on the Original Investment.

BY CHARLES STEWART.

I am only a recent recruit in the lowest ranks of the army of bee-keepers; but if I could say any thing that would induce even one other recruit to engage in bee-keeping I should be amply repaid, and feel, too, that I had conferred a great favor on said recruit. Of all rural industries (and I have had more or less experience in many) bee-keeping is the most fascinating; and, if properly conducted with suitable fixtures, the money profit will average fairly with any other, to say nothing of the pleasure derived from the study of the faithful little pets. I am only a private, and almost any one having a fancy for bees can engage in their keeping to even a greater extent than I have, without interfering with other cares.

I bought two colonies to start with, and never have owned above 23. In the late fall or early winter I subscribed for your paper. That proved to be the virus that inoculated me with the microbe of bee-keeping. The long winter evenings, and access to a library well stocked with bee literature, was favorable to the "culture," and by spring I knew theoretically as much about

bee-keeping as the Moses who had been in the wilderness forty years with the bees.

I bought my first two colonies from a neighbor who had some surplus colonies for sale. He was one of God's own noblemen, and I am led to believe there are many such in the bee-keeping fraternity—not alone a sayer but a "doer of the word"—one of those whose religion it is to do more than bargained. After having sold me the two colonies at a moderate price he said: "There's a little weak colony; if you have a mind to fuss with it, take it along for nothing; but I judge it will need feeding to pull through."

I took it along. This was in March, after a winter of entrancing study of all phases of bee literature. I then had two moderately strong colonies and a nucleus—so to speak—of common black bees—all in boxes such as may be picked up in the back yard of a grocery store.

The first problem for the would-be bee-keeper that comes up for solution is the choice of a hive; and, in my opinion, it is an essential one. If a mistake is made here it is attended with serious consequences, as a change is not made without much loss, both in time and money. It is a problem that each should solve for himself only after mature deliberation. I selected the Danzenbaker hive, and I am vain enough to state freely that the choice was a good one. I winter outdoors on the summer stands and have never lost a colony, although severe winter weather is the rule, with temperature frequently 20 to 25° below zero; so I think I have no necessity for chaff-packed or air-spaced hives. Neither do I feel the necessity for a non-swarmier hive. My bees never yet have swarmed, so that, for me, the Danzenbaker has proved to be a non-swarming hive.

After the hive problem is solved, the next question likely to come up, but not so important as the hive, is the strain of bees to keep. For myself I settled this question by choosing leather-colored or red-clover Italians.

I brought my boxes of bees home March 18, covered them all snugly with tarred paper and let them stand till fruit-trees came in bloom, and then transferred to the Danzenbaker hives. The nucleus was a mere handful of bees, with a nice young queen, which, with some care, I built up into two rousing strong colonies, and later sold them for just \$50 more than my initial outlay. The two moderately strong colonies I ran for surplus comb honey. They gave me 256 finished sections 4×5×1½, some of which I sold for 20 cts. each, some 18, 15, and a few of the least perfect and darkest as low as 10 cts. Of course, I did not sell it nearly all. Ourselves and nearest neighbors ate a fair share; but if all had been sold at the lowest price it would have netted \$25.60 on a net investment of *nothing*—yes, 50 cents less than nothing. Many do better than this. I have done better myself since; but the money returns to an amateur bee-keeper, while a source of some satisfaction, are not the only satisfaction. Without any monetary reward the pleasure derived from a study of the energetic little pets is itself a reward as pleasing as the opening scenes of life. It is like the entering of an unexplored paradise. Any person not already a bee-keeper, who wants to add new zest to life, should keep bees.

Toledo, Ohio.



## UNCAPPING-KNIVES.

### Hot Knives Needed for Cold Thick Honey.

BY R. C. AIKIN.

I have just read Mr. Robinson's article, page 1374. He refers to the use of water and hot knives as foolishness, and he hits me, for I use just that sort of plan. A shallow pan hangs on the edge of the uncapping-box, with a large lamp or small oil-stove under it to supply the heat; and as fast as a knife gets cold it is dropped into the pan and another one picked up. It is true that some honey gets into the water, and by and by it becomes a syrup and goes into the vinegar-barrel, and fresh water is substituted.

Mr. Robinson refers to having sour honey. Almost any kind of knife would do to slice cappings from honey that is so thin and watery that it will sour, and in a hot country like Texas.

Here I can take honey right from the hives in July or August, and uncup it very nicely with a cold knife, but with a hot one it goes a whole lot slicker. I can also heat honey in a house, and when warmed, and the room kept at about 90 degrees, it may be uncapped fairly well with a cold knife, but much better with a hot one. And, what is more, when I come across a comb of slowly gathered well-ripened honey, even when just from the hive, it is difficult to cut it with a cold knife; and sometimes, if the comb is new, it will tear. It is a whole lot easier on one's wrist and shoulder to have a knife so it will slip through easily, and that is what the hot one does.

The argument that the edge of a knife is so thin that it cools instantly when in contact with the cold honey, thus frustrating the desired end, is in part fallacious; but, even if true, the body of the knife is yet hot, and the cappings and the honey glide off, allowing a free and easy passage through.

But, Mr. Editor, there is not much to argue about. If the weather is hot, and the honey naturally thin and easy to cut, nothing is gained by heating—just use the knife cold. If the honey is a little cold, or inclined to be thick and gummy, the kind that puts a smile all over that face of Chalon Fowls when he gets a smack of it, then by all means use a hot knife, and save time and the shoulder and wrist ache.

#### EXTRACTORS.

Mr. Robinson speaks of not getting more than two-thirds of the honey out after frost. That statement needs qualifying to be clear. My first extractor was a home-made one for two combs of Langstroth size. I also used a Stanley reversible a very little. Then I used a little two-frame Root, non-reversible—one of those old-timers with a little horizontal crank on top so that one could speed it till it fairly sailed around. Since then I have used a four-frame reversible, made to order by the Root Co., the can a little bit larger than the standard four-frame, because I wished it to take in the American frame. Now for results.

The pockets of my home-made machine were hung close to the center-shaft, and I think it was geared at least three to one. It was burned up, so I am guessing at the gear, but it jerked the

honey out. So also does that little old two-frame Root machine, the pockets of which are also close to the center shaft, and the short crank set horizontally makes the basket spin at from 200 to 400 revolutions per minute. It is a high gear. My big four-frame reversible is geared two to one,\* and has a rather long overhand crank. It is not effective except when the honey is quite warm, and it has to be cranked fast even then.

#### AN IMPROVEMENT IN EXTRACTORS SUGGESTED.

Over a big iron can and cast-iron cross-beam the gears make more noise than a railroad train, and in the house they make altogether *too much* noise. Can not those gears be made of hard wood or gutta-percha, or something less noisy? Possibly a wooden cross-arm would help to deaden the noise. I would suggest that the ratio of the gears be made greater so as to make a higher speed possible.

Loveland, Col.

[Experiments are being made with a special alloy for gears, with a view to reducing the noise, and at the same time insure a smoother running.—Ed.]

#### STRAIGHT KNIFE PREFERRED.

Yes, by all odds the straight knife, even a 16-inch butcher-knife, is far ahead of the short crooked-shank knife, as there is no side strain on the hand, and a long sawing motion does far better work. The point should be crooked a little, or else a short curved knife be used for depressions. A short bevel on the under side of the knife is an improvement, as there is less friction.

Mechanic Falls, Me. E. P. CHURCHILL.

I always use a sharp cold knife for uncapping. I have never tried a hot knife.

Luce, Mich.

WM. CRAIG.

## HEADS OF GRAIN

### FROM DIFFERENT FIELDS

#### BROOD DIES BECAUSE OF A LACK OF VITALITY ON THE PART OF THE QUEEN.

On page 1327 I notice that C. B. Fritts, of Niles, Mich., has had trouble with brood dying in a half-grown stage. We have been bothered in the past by the same trouble, and at times we find it in the darker bees. We feel very sure that a weakness in the queen is the cause, and a lack of proper vitality will show itself when the larva is about half grown—by death. We experimented variously along this line till we found a remedy, and then concluded we knew the cause. We removed all brood, put the queen on foundation, and fed sugar syrup. This reduced the death-rate somewhat, but did not cure all. Some hives would get over the trouble as the summer went on, but others would still hold on to the malady.

One thing we noticed which made us feel that a lack of vitality was the cause, was that, as the hives were filled up with syrup, the trouble

\* All four-frame extractors are now geared three to one.—Ed.

abated largely, and in some cases disappeared. We concluded that the trouble lay largely in the queens, and so went to killing the old queens and introducing yellow ones. This has in every case helped us out after the larvæ from the former queen were out of the cells.

Another point right here: The black bees with the least honey in the spring were the first to succumb to this dwindling of brood. Since then we have introduced the pollen-basket in the spring and fed eight stocks with syrup. The water-trough was also installed with a little salt added, and kept running the whole summer. Since then we have not been bothered as before. In fact, we do not expect this any more with yellow queens, early feeding, and watering in the spring; and we have long concluded that the trouble was due to a lack of vitality in the queen, either from weakened constitution or a lack of proper feeding in the spring.

D. J. BLOCHER.

Pearl City, Ill.

#### DROUTH DOES NOT HURT CLOVER; SPRING FROSTS DO MUCH DAMAGE.

Don't worry about the drouth, p. 1365. That hard-headed farmer is right. Here on the Manitoulin we had drouth. The soil is about four inches deep over limestone rock. It was wet in July, and not again until near the end of September, when we had another nice rain, followed by another about the end of October. Through all this dry weather clover was always green. Last year when the drouth was so severe that the ground had the appearance of being burned over, clover sprang up under a scorching sun before rain came. It is the spring frost heaving it out that we most dread.

By the way, will next season be wet or dry? I have often noticed a dry summer being followed by a light fall of snow the next winter, and a dry fall giving a dry spring. What have others seen?

Little Current, Ont.

W. MOORE.

#### A DENTED QUEEN OF NO VALUE.

Last June I bought a select tested queen. In May I raised a queen from her queen-cells over the same colony, which hatched out May 29, 1908. To-day, July 5, there is no sign of brood, and the few eggs that may be found do not hatch. The queen has a dent at the end of her abdomen on the upper side. Sometimes she lays two or three eggs in one cell. The bees are queenless, but she is there just the same. Two queen-cells, which I overlooked, are still there, but there are no eggs in them.

HARRY LEBNER.

Chicago, July 5.

[Very often, and generally, a dent in the side of a queen will do no harm; but in this case it is clearly evident it ruined her. All such queens should be replaced without delay.—ED.]

#### DOES PAPER OVER HIVES PREVENT MOISTURE FROM ESCAPING?

I winter my colonies in hives placed close together in a box 8 feet 4 inches long, made of half-inch shoe-box lumber. There is room for five inches of packing in front and rear, and the same on each end. Now, I propose to put building-paper around the row of hives, folding it over the

top, and then laying newspapers over that. I would then add the packing material as before mentioned. Will the paper on top hold the moisture in the hive enough to make its use objectionable? There would be six inches of packing over the paper.

Gosport, N. Y.

J. H. SPROT.

[There should be a cover which the bees have sealed down before the paper is put around the hive.—ED.]

#### FREEZING WEATHER IN SPRING HURTS CLOVER MORE THAN DROUTH IN FALL.

Your farmer friend was right as to the clovers. Here, as in the section you mentioned, the clovers are about the only green plant-life to be seen. If there is plenty of snow this winter, and not too much freezing and thawing in the spring, there will be no need of worrying about the clovers. The early part of spring, when there is much freezing and thawing, is the trying time on clover. Three weeks of this kind of weather will do more harm to the clover than three months of severe drouth.

THOS. H. WHITE.

Connersville, Ind., Nov. 30.

#### BEEES IN CHINA.

I do not know whether many bees are kept in China or not; but Mr. Wilder (Rev. George D. Wilder, missionary) has quite a number of hives; and the last time I was out there he got a stray swarm—a larger one than I had ever seen or heard of. The bees of China are, it seems to me, a little longer-bodied, and a little yellower than the Italians, and they are even more quiet and peaceful than they. Mr. Wilder goes among his and handles them bareheaded, and when I say bareheaded I mean *bare*, for, like old Uncle Ned,

He has no hair on the top of his head—

The place where the hair ought to grow.

And he never gets stung. They have honey as they want it, and very nice honey too.

Peking, China.

D. I. MINER.

[The above extract from a letter was sent us by one of our subscribers.—ED.]

#### CONDITIONS IN A DAMP TROPICAL CLIMATE.

In this climate, for the past three months the thermometer has stood between 85 and 95 in the shade, with heavy rain nearly every day; every thing is damp. The paper on which I write I have to dry over a fire to prevent the ink running; dry clothes are simply impossible, and even one's boots get a blue mold on them in a single night. This will give some slight idea of the climate in this locality. The bees carry in quantities of pollen from maize, pumpkins, etc., but very little honey. The heavy rains wash the nectar out of the flowers. If any of your tropical correspondents living in the low lands would kindly mention their treatment of bees I should be very thankful.

FRANK W. BREACH.

Chinipas, Chihuahua, Mexico

[This is in strong contrast with the weather we have been having in the United States, especially in this section. But nature has already begun to equalize, for we are getting heavy snows.—ED.]



BEUHNE PLAN OF INTRODUCING; A GREETING  
FROM AUSTRALIA.

Among the numerous methods of introducing queens given in GLEANINGS I have never seen that originated by Mr. Beuhne, and illustrated some years ago in *The Australian Bee Bulletin*. He discovered, I believe, that, if strange bees were admitted into a queen-cage after all the attendants had been removed, they would not molest the imprisoned queen. Consequently a cage was constructed by him with a side opening covered with queen-excluding zinc through which the workers had access and became familiar with the new queen. They then assisted from the inside the workers on the outside of the cage in eating the way out for her through the candy.

Since this appeared I have always altered the Benton cage by making a side opening, covering it with a piece of queen-excluding zinc and thus introducing the queen after liberating her attendants. In my experience this method has never failed.

Mr. Beuhne's cage can also be used as a nursery cage by making a hole at one end sufficiently large to admit a ripe queen-cell.

Your subscribers will be grateful for that fine photo of our dear old friend (for such I esteem him) Dr. Miller. My regret is that you printed on the back of it, and so prevented its being framed without mutilating the number in which it appeared. The first portion of each successive number of GLEANINGS that I read is that under the head of Stray Straws. The pithy, humorous, and good-natured comments are always admirable, more particularly when the writer is having a "sly dig" at a certain well-known editor. I am pleased to be able to add my small quota of appreciation to the fine character of the dear old doctor.

Will you please give the botanical name of mammoth clover, page 931? It would aid considerably if this were always done when mentioning useful plants.

I have not written with a view to your publishing my letter, but more as an expression of good will from Australia to our brethren in the United States.

From a Victorian brother who sends hearty fraternal greetings. EDWIN COX.

Northwood, Victoria, Aus., Sept. 25.

[This plan of putting perforated zinc on introducing-cages for the purpose stated has been before given in these columns; but whether the idea at the time was copied from, friend Beuhne, we can not say.

It generally works well; but in the case of some cross or obstreperous colony the bees will sometimes attack the queen.

Mammoth clover is a variety of *Trifolium pratense*.

We certainly appreciate your hearty greetings.—Ed.]

WERE THE BEES DISEASED?

On page 1327, Nov. 1, C. B. Fritts wonders whether honey from poisonous plants killed the brood. Two years ago I was having about the same trouble, and I sent samples of brood to Dr. G. F. White, of Washington, D. C. He report-

ed it to be what was commonly called black brood. The disease started near Dowagiac, Mich., some four or five years ago, and spread very rapidly in all directions and wiped out several small apiaries that were not treated. My apiary of 42 colonies was reduced to 11 colonies, and I got no surplus two years ago. A year ago I re-combed all colonies, increasing them to 22. This last season I treated 5 colonies, and increased to 46 colonies, getting about 1500 lbs. of comb honey. I introduced Italian blood and pinched the black queens, and, so far as my yard is concerned, I am free from the disease. I have the best success with the Baldrige method of treatment. I am located east of Dowagiac where the disease started. As Mr. Fritts is west, I think it is possible that he has black brood in his apiary also. —W. C. TAYLOR.

Decatur, Mich., Dec. 14.

[We know of no honey that kills brood. If brood dies it is due to starvation, cold, heat, or disease. All suspicious cases should be examined carefully, and if in doubt, it should be submitted to an expert.—Ed.]

QUERY AS TO INBREEDING OF BEES.

I desire to improve my bee stock both for honey-gathering qualities and color, and I wish to know the results of inbreeding to attain these qualifications. What I want is the experience of any one on the subject. I desire to produce a great honey-gathering strain of bees, queens of great laying powers, and at the same time improve the color in the direction of the goldens, but I don't want the golden bees. Furthermore I want gentleness in the bargain. Let us hear from the men who have had long experience along this line. T. P. ROBINSON.

Bartlett, Tex., Dec. 1

[Inbreeding, when intelligently practiced, is all right; indeed, by it our best breeds of cattle and horses are produced. When applied to bees we run up against the difficulty of controlling the selection of the drones.—Ed.]

SUPERS ON HIVES THROUGH THE WINTER.

Is it a good plan to leave supers on hives through the winter partly filled with honey or empty combs? M. R. REEVES.

Grenola, Kansas.

[The plan is all right so far as giving stores and wintering is concerned; but we would not advise it, for the reason that the sections and supers will be more or less soiled or travel-stained. Better give the stores in the form of brood-combs.—Ed.]

A CORRECTION.

On page 1372, Nov. 15, I am made to say that the eight-frame hive needs less care than the ten-frame hive. What I meant to say was that the eight-frame-size hive needs more constant care than the ten-frame hive. E. D. TOWNSEND.

Remus, Mich., Nov. 30.

# OUR HOMES

By A. I. Root

And God said, Let us make man in our own image, after our likeness.—GEN. 1: 26.

How beautiful upon the mountains are the feet of him that bringeth good tidings, that publisheth peace; that bringeth good tidings of good, that publisheth salvation; that saith unto Zion, Thy God reigneth!—ISA. 52: 7.

I want to talk to you this morning about feet—yes, beautiful feet; and I hope and pray that my talk may be helpful. One Sunday morning at that Bingham Sunday-school I told you about, in the hills of Northern Michigan, I asked the children, "How many of you would like to have beautiful hands? Please raise your hands, every one of you who would like to know how to make your hands *beautiful*."

There was quite a little smiling, especially among the girls, but I think most of the hands went up, and then I added, "The recipe for making your hands beautiful I have just read in the *Sunday School Times*. Now listen while I repeat it, for I want you to say it after me:

"Beautiful hands are those that do  
Things that are useful, good, and true."

And then I had them repeat it after me again and again; and I have often thought of it since that time. Just this morning it occurred to me that if I could talk with that Sunday-school up there once more I would vary the couplet and put it this way:

Beautiful feet are those that do  
Errands that are useful, good, and true.

Yesterday Dr. Creghan, a great missionary who has been around the world one or more times visiting different missionary stations all over the face of the earth, told us in his address that the whole wide world might rejoice at the *emancipation* of China. There are in China, as you may know, something like 400,000,000 people, while the whole United States can scarcely scrape up 80,000,000 all together. Well, China has been noted for her exclusiveness and superstition. A part of her foolish, silly, and *horrible* superstition has been, for *more than a thousand years past*, that women's feet should be small. You have all heard about it. The women of caste and fashion, at least, have their feet cramped from childhood, so that they are literally crippled—horribly crippled—so that some of them, at least, can not walk *at all*, and *millions* of them have been thus crippled during the last thousand years. We can scarcely contemplate or believe that it is possible, just because of the silly fashion, that the greater part of the world have been more or less *helpless* *cripples*; and it is the poor weak helpless *women* who have been, and are even now, crippled in that way. The boys and men can run and jump, and enjoy the use of their limbs; but the girls, at least after a certain age, are "crippled for life." There is no help for the older ones. All the doctors and all the treatment and all the asylums can never make their feet outgrow the consequences of this hideous mutilation. But the coming generation, thank God, are going to be delivered from this thralldom and cruelty. An edict has just been issued, if I am not mistaken, about it, not only permitting the girls and women of China

to let their feet grow naturally, but *forbidding* them any longer from warping and imprisoning the toes that God made to be of service.

There is another emancipation for which we can thank God, and that is, that opium is also to be forbidden and debarred; and it is not "poor heathen China" that is so much to blame for the opium habit. The great British nation, first in civilization, or claims to be, has been forcing China to take up and keep up this horrid traffic. How is it possible that the world has lived so long and these things I have just mentioned have been *permitted* to go on unrebuked?

Well, the people of the United States need not congratulate themselves on being *so much* ahead of the rest of the world when they are obliged to confess that, until the present time, the awful liquor-traffic has been permitted to go on almost unmolested; yes, and even now there are people right around among us who claim we "can not pay our taxes" unless the saloon-keepers be permitted to make cripples and idiots of our innocent children almost *before* they are born.

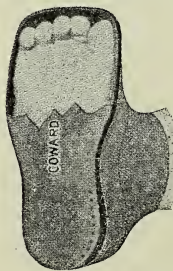
Let us go back to the feet, the beautiful feet—the kind that "bring good tidings, that publish salvation, that say unto Zion, Thy God reigneth." While that great missionary was telling us about the crippled feet of the poor Chinese women, my mind instantly reverted to a fact that I have long been considering a protest against—the continuous crippling to a greater or less extent of the feet of the good people here in our own land, and especially the feet of the women folks. The toothpick-pointed shoe has largely gone out of fashion, yet I see some of them even yet; and I see that the tyrant Fashion inflicts upon us, and *demand*s that we *shall* wear some that are not very much better. What brought this to my mind a few days ago was getting my eye on an advertisement in the *Ladies' Home Journal*. I like to look over the advertisements in any periodical. In fact, I often judge of the character and literary standing of a periodical more by the advertising than by any thing else. Well, I saw a picture that almost made me shout, "May the Lord be praised!" Here is the picture.

## THE COWARD SHOE.

The Coward "Good-sense shoe" provides room for five active toes. Its pliant sole furnishes a natural foot-tread—a perfect-fitting shoe that supports ankle and arch, and prevents flat-foot. Economical in price and wear. For children, women, and men. Send for catalog. Mail orders filled. Sold nowhere else.

Address

JAMES S. COWARD,  
268—274 Greenwich Street,  
New York.



Well, what do you think of it? The man who has had the hardihood and courage to come out thus in a great journal and recommend a shoe that will let the feet grow and live (as God meant they should grow and live) this man is named *Coward*. Well, it is queer how our names sometimes fit us. Instead of being a coward he is a great warrior, and I should like to see him have a following—well, I would not stop at trifles, but I should like to see him have a following of 400,000,000 or more. Of course, I can not see



it before I die; but may God grant, when the time shall come, that *all* the boys and girls on the face of the earth, and *men and women, shall* adopt some sort of footwear that will let their feet grow as naturally as their hands and their fingers grow.

When I thought of taking up this subject I made up my mind that I would ask a great lot of people to let me take a look at their bare feet. As I have reason to believe that womenkind are the greatest sufferers I mentally decided that I would go to every one of my daughters—yes, and granddaughters—and ask them to take off their shoes and stockings, and let me see their feet. Yes, and I decided to go to my sister, too, and to some other women where I felt sufficiently well acquainted, and tell them I wanted to take a look at their bare feet.\* Do you know why I did not do it? It was because I knew from past experience that I could not and must not put an account of it in these Home papers. Dear friends, I have written at least one Home paper that was ruled out by my sons and daughters, and by Mrs. Root. While they admitted it was a subject that was sadly in need of a tremendous reform, they decided it belonged rather to the province of a medical journal than in my department of GLEANINGS. I still think it ought to have been allowed to appear; but I hope I shall never get to be so contrary and stubborn, even in my old age, that I can not listen and give way to the advice and counsel of the younger ones.† I wonder how many of our women readers would be willing to wear or at least go out in public with a shoe shaped like the one in the picture. I have suggested the same thing in years past, but I have been met right and left with the reply that it would never do to adopt any thing so entirely out of fashion. Good women—yes, some among the great reformers—say that one who goes out in public must conform, at least to *some* extent, to the prevailing fashions, no matter how ridiculous or hideous the fashion may be. A few years ago women were killing themselves by tight lacing, and for a time the doctors' protests and warnings seemed to be of but little avail. But a reform has come—yes, a great reform—even though there are still a few who go about with wasplike

waists. When some of these friends of mine with their painfully small waists argued that it was their natural size, and that they were not cramped at all, I replied, "Then for God's sake wrap something around you and make *believe* you are like other people, even if God did not make you that way." I think T. B. Terry's teachings have done much to encourage the use of loose clothing. And, by the way, T. B. Terry, I want you to help me in this crusade for natural feet. Yes, I want every minister of the gospel to help; and I know the good honest physicians and family doctors will help, and will tell you that I am right.

Now, I have not made the examination I have talked about so as to prove what I say; but I want to ask every father and mother, whose eyes are on these pages, to take particular notice just now of the cramped and deformed feet belonging to your wives and daughters. If there is not any thing of the kind to be *seen* among barefooted women, then the world is better off than I supposed. Let me give you a little of my experience.

In my boyhood I went barefoot just as long as custom would permit, and I have gone barefoot a good deal of my life when circumstances permitted. I greatly enjoy, even now, wading through the grass in the morning before I put on my shoes.\* Several times in my life I have tried to conform to fashion; but my toes made such a protest that I wore my Sunday shoes only when I had to go among people. If you will look at the picture I have given you, or look at a child's foot, especially that of a child going barefoot, or a baby's foot, you will get a glimpse of the way God made our feet. Do you say the natural foot is not beautiful in an artistic sense? Well, just take a look at a baby's foot before it has been cramped out of shape by fashionable shoes. Did you ever see any thing prettier than those pink toes, the graceful curves, the arched instep, and the rounded heel? Well, this baby's foot, and, in fact, every other natural foot, is somewhat three-cornered—the heel at one corner, the big toe at another, and the little toe is the third corner. Well, in the attempt to make my left foot conform to fashion I cramped it in the corner just back of the little toe until a serious corn or chilblain, or the two combined, set in. I finally went to our family physician about it. Said I, "Doctor, I do not know whether you want to undertake to take care of the feet or a sore toe; but I should like your advice, any way."

He replied, "Mr. Root, I am always glad to do *any* thing to alleviate human suffering. My business in life is that, and I enjoy it."

After he looked at my foot he told me I would have to get an old boot or shoe, and cut out a piece of the leather clear around that sore spot; and I would have to go around that way for three or four weeks; for unless I did, something serious might happen. He said it was owing to a lack of ventilation in my shoe. Then he went with

\* When I first thought of taking up this subject, and was discussing it with my wife, she positively forbade my saying any thing about *her* feet. But I am going to add this much:

Mrs. Root, even when a girl, was remarkably active, and full of life. She could run and jump, and even climb trees; and even now, when she is pretty close on to threescore and ten, when she is in a hurry with her work she can skip about almost as quickly as any of her children or grandchildren. When our good friend O. O. Poppleton was here a few days ago he said something like this: "Brother Root, it is really remarkable to see a woman as well along in years as your wife *fly* about in the way she does when she wants to accomplish a good many things quickly."

Brother Poppleton was right about it. And now just contemplate, if you choose, torturing and maiming such a bright good woman by *obliging* her to conform to fashion! I have seen her come up the doorsteps with a look of pain on her dear face that fairly touched my heart as she hurried to the cupboard near her bed and jerked off her fashionable shoes and replaced them with the easy cloth ones that she wears about in her every-day work. There, I have told my story, but I have not said a word about her feet, after all, have I? I think I told you some time ago that, when I was courting Mrs. Root, I "loved the very ground she trod on;" and I now say, as I come down to old age, I do not reverence that same "ground" a bit less.

† Perhaps I should add right here that, since that paper of mine was thrown out (the subject was the need of better toilet rooms or closets for the home), there has been a wonderful reform—one almost worldwide. It seems to me I was a little ahead of the times—that is all.

\* So far I have not said anything about caring for the feet so as to keep them natural and healthy. Wading in the dewy grass is nature's cure, and perhaps the best thing in the world. In the winter time (when there is no grass) the feet should not only be bathed often, but soaked thoroughly so as to cleanse them from every thing that can be removed by the brush or towel. When the feet are disposed to get dry, hard, and painful, I have never found any thing better than a little vaseline. I suppose the various foot-powders so much advertised may be helpful for sweaty feet; but I have never found them by any means equal to the vaseline.

me to the shoestore and picked out a pair of low shoes that laced almost down to my toes. He said my feet demanded ventilation, and would have to have it. He said that many people are absolutely obliged to let their feet have air to breathe, as well as to let the mouth and lungs have pure air. I think I have mentioned before that Abraham Lincoln used to do his writing mostly in his stocking feet so as to give his feet a chance to "breathe." May God bless the memory of the great and good man who taught us so many useful lessons! Well, I even went to church with a hole in my shoe. I think I put some ink on my stocking so as to make it as near the color of the shoe as possible, and in a short time that foot got well; but I have worn loose shoes ever since. While building up that little Sunday-school early in the spring in Northern Michigan I did a great deal of traveling one Sunday morning. I canvassed the whole neighborhood, and secured a big Sunday-school that very first morning; but in so doing, with my Sunday shoes on, that particular corner of my left foot got to be so bad that, after the Sunday-school was over, I pulled off my new fashionable shoe and walked home with that foot bare. It still burned and pained me so that I purposely walked in a snowdrift beside the road; and I finally put that feverish, painful foot into snow and water and kept it there. The fever in that foot was so great that I kept it in cold water a great part of the afternoon; but after putting on my loose open shoes I had no more trouble during the week. That was Nature's protest against a horrible, unreasonable, fashionable shoe. I suspect there are more than one of you who have gone through a similar experience.

Just now I have in my possession a very nice-looking pair of patent-leather shoes. I got patent leather because one of my boys suggested that it would save me the fuss and bother of shining my shoes up every little while. Well, I have had them four or five years. I can wear them to church, and look like other folks; but I am always happy when I get home and can put on my old shoes that are out of fashion.

Now, to illustrate, suppose I am called on to address a Sunday-school, which is generally the time I take for my afternoon nap, just a little after dinner time also; then to add to the rest of it, those pinching shoes make me feel cross when I need the greatest spirituality.\* Of course, I can shine up my old ungainly shoes, something like that in the picture, and stand up on the platform before the audience. Now, here is the problem: When we are called on to speak in public, we older ones, of course, do not need to be clear up in fashion in our attire; but we should look decent and reasonably respectable, especially if we wish to have our words have weight, and count; so I do not know but it is a Christian duty to conform, at least to a certain extent, to fashion; but the time has come, dear friends, when a great lot of us should band together and declare that we will no longer submit to the tyrant Fashion, especially when this tyrant violates

all rules of good sense and reason. Has the time not come when we should not only cheer and encourage the poor heathen Chinese, but go a little further and take the lesson home? Who is there among us who can not give three cheers for the man who has brought this new shoe, and even dares to advertise it in the *Ladies' Home Journal* — the man who is not a coward in any sense of the word, but who is a brave general to come out thus boldly and defy the demands of fashion? I do not remember now any thing about the price of his shoes; but I presume it is no more than is usually charged for other good shoes. It may cost a little to get them by express. But how much is it worth to you to have good healthy feet — feet that will enable you to enjoy life and to thank God, and, may be, walk a mile further\* each day than you would with the old-fashioned ridiculous kind? May God be praised that I still have the full use of my eyesight; that I have also the full use of both hands; and last, but not least, that I can run and jump, and go a mile almost as quickly and easily as any of my children or grandchildren; and may God speed the day when our greatest care, while we are permitted to be here on earth, will be to look after, study into, and take care of these bodies of ours that our opening text says were created in God's own image; and then may the great Father above help us to take care of the feet he has given us, including the toes, that we may preserve them, not only in the way of keeping them beautiful but useful, that we may, with their help, spread the "glad tidings" and "publish salvation," not only throughout China and Japan, but over this whole wide world, including the United States of America.

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## POULTRY DEPARTMENT

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THE POULTRY-HOUSE TENT AT STORRS, CT.;  
MORE ABOUT IT.

After my article on page 1273, Oct. 15, was printed, the editor of that beautiful and useful publication, *Suburban Life*, called my attention to the fact that in their issue for last May they gave a picture of the very tent that I was so much taken up with; and they have also kindly loaned me the cut so I can present it to our readers. See page 1508. Here is what they have to say about it:

There is much discussion nowadays among poultry-men in regard to poultry-houses which are open at one side, or which have windows without glass, even during the coldest weather; and a number of poultry-raisers are using this plan with success. For testing the practicability of the cold-air method, Professor Graham erected a tent made of ordinary duck, costing about six dollars. He placed a roost and nests in this tent, and made it the home of a small flock of White Leghorns — a variety of birds, as is well known, having unusually large combs. These birds have lived in this tent all through the past winter, and not one of them has had its comb even touched by frost, while the flock have laid fairly well. It is a fact, strange as it may seem, that the thermometer has shown the tent to be warmer than some of the regular boarded houses.

My impression is that, during zero weather, they were in the habit of banking up snow around

\* Suppose, for instance, that we wish to impress on the school the beauty of the great promise of the little text as follows: "Thou wilt keep him in perfect peace whose mind is stayed on thee;" and suppose, too, while you are striving to add emphasis to the text, those shoes are pinching your corns until you are in any thing but a Christianlike frame of mind!

\* "And whosoever shall compel thee to go a mile, go with him twain."



the tent in order to cut off drafts and cold winds. I notice that the chickens (like my poor self) can stand cold very well if there is not a breeze, or, worse still, a strong wind; therefore these cloth houses ought to be as nearly air-tight as possible, for plenty of air percolates slowly through the cloth at all times and under all circumstances. Have the opening made for access so it will shut up as nearly air-tight, or, rather, wind-tight, as possible. If an opening is left for the chickens to go out and in at pleasure, this too should be closed up absolutely tight during zero weather. Now, in order to prevent this opening admitting a draft of cold winds I would suggest having an underground tunnel, and I have already used such a device quite satisfactorily. To do this your tent should be on sloping ground, so no water can by any possibility collect in their tunnel. Some years ago I had such a tunnel leading from the poultry-house to a string of cold-frames, and the fowls greatly enjoyed themselves in winter weather, scratching and dusting under the glass sashes. Now, please be sure, if you use glass at all, to give the chickens the privilege of running out from under the glass whenever it becomes too warm. If you do not do this, the overheating during the middle of the day, even in winter, may do the chickens positive harm. My impression is that cloth instead of glass would be much better for poultry the year round, and we should be sure that even the cloth tent does not get too warm inside when we have a spell of warm weather in winter.

In closing let me remark that, if you have not seen *Suburban Life*, you should at least get a sample copy. It is one of the most beautiful works of art that our nation or any other has ever submitted to the people. The pictures alone are worth its price—25 cents for a sample copy. For the address, see their advertisement in our last issue.

While on this subject a newspaper clipping was sent me by some friend, so I can not give credit to the paper from which it was taken. Here it is:

#### POULTRY-HOUSE IDEAS.

A poultry-house should not be built on the plan of a dwelling-house. It is impossible to retain the heat in the house by the exclusion of fresh air, and have the house dry, without the use of artificial heat. At the Maine experiment station it was found that hens confined in a cold or curtain-front house consumed 15 per cent more food than a like number kept in a warmed house when the temperature was just above freezing. It took four tons of coal to heat the warmed house, which cost considerably more than the extra feed. The egg yield in the two houses was about equal; but the eggs from the hens in the cold houses hatched by far the best.

It is very true that, under the circumstances mentioned, we had better give the chickens an extra amount of food rather than buy coal for fuel. But I feel sure that, if the cloth tent is properly fixed and managed, we can save a large part of the "fifteen per cent" and still get the same number of eggs and the best kind of fertile eggs.

#### "NOTHING TO DO BUT GATHER THE EGGS."

The above quotation is not exactly as it appears in Edgar Briggs' new book, "Profits in Poultry-keeping," but it comes pretty near it. What we do read is this: After having described the automatic feed-boxes, those that will contain enough to last the fowls a week or two, he says, "If your plant is built on a stream, and inclosed

with a good wire-netting fence, all the work you have to do during the week is to gather your eggs every night."

Whew! wouldn't that be a bonanza? "nothing to do but gather the eggs!" Of course, at the end of one or two weeks you would have to take a horse and haul around grain to replenish the hoppers; but if the hens really laid eggs enough to make a profit after paying for their feed, what a gold-mine we should have! for when you get one pen in running order you could get right at it and establish a second pen, then a third and a fourth, and so on, *ad libitum, ad infinitum*. Brother Briggs admits, however, that you would get a better profit by bestowing a little more labor besides gathering the eggs; and the next chapter describes this matter and tells how to get the most profit by the least expenditure of labor.

Of course, this is an old story that has been gone over again and again, and my poultry experiments down in Florida were made particularly with that end in view, to see how near I could make the whole thing automatic and still have it pay a profit. Well, it did very well when I was there to keep an eye on things; but when I came away and turned over my poultry-ranch, with something like a hundred laying hens, to my good friend and neighbor E. B. Rood, then came the test. Suppose we grant, for illustration, that a poultry-ranch of moderate size could be so managed that there would be practically nothing to do but to gather the eggs daily, and fill up the hoppers, say once a week; can we *still* make the institution pay if we do not live on the poultry-farm, but employ somebody to gather the eggs and keep the chickens supplied with food? Well, with this end in view I left my chickens with neighbor Rood. Several times during the summer I have sent him a postal card asking him how the speculation turned out. For a little time he said the chickens were doing very well. Pretty soon there was no report; and finally when I urged a little the following came:

Dear Mr. Root:—I am very sorry to be compelled to state to you that the chickens are not laying as well as I think you will get them to after you come down. In fact, I have about decided that chickens are social creatures, and do better when there is some one about with whom they can commune once in a while. This may not be true of *all* chickens, but it seems to be true of Mr. A. I. Root's chickens at least. Possibly they were brought up under such social surroundings that society is necessary for them. I know that their food has not enough variety, and I thought that I would feed them ground meat, but after trying it for a while I got lazy and quit. You learned long ago that a lazy man had better leave chickens alone. Eggs are 50 cts. a dozen. I get from five to twenty a day from both yours and mine—as many some days from mine as from yours. I hope to have lots of lettuce, cabbage, and cauliflower for them after a while, and then they may do better. Your little rubber-tree is a beauty, and nearly every thing has done well. We shall be glad to see you. E. B. Rood.

Bradentown, Fla., Oct. 5.

Now, friends, there is a big moral right here. It looks to me as if chickens really do crave the companionship of human beings. They want to be petted and complimented occasionally. They need to be in close touch with somebody who knows them by name and loves them. Do you know what the dear Shepherd said about the sheep? Well, it is true of chickens also. By the way, Mrs. Root thinks the idea of having nothing to do but gather the eggs is a big joke; and she says if any of the readers of GLEANINGS think I had nothing to do but gather my eggs down in Florida they ought to have been around when I

was trying to "gather" my surplus young roosters. Of course, I got 20 cts. per lb. for them; but she said she was a little afraid it would wear me out, mentally and bodily, in getting those young roosters in a cage to send to market. You see, down there they roost away up in the pine-trees; and my flock of sixty White Leghorns here in Ohio have been roosting up in the evergreens which surround our apiary. I succeeded in getting them out of the evergreens and driving them into the orchard; but just now all but about a dozen positively insist on roosting in a big apple-tree that overshadows the poultry-house, instead of staying indoors. If any of our readers can tell me of a quick way of getting these chickens out of the tree and into a cloth-curtain poultry-house, say along about Thanksgiving time, I shall be greatly obliged to them.\*

Now, I do believe we can have things so arranged that the amount of real work needed to care for a flock of fifty or a hundred chickens would not amount to much; but when somebody tries to persuade you that they can be so managed that you will have comparatively "nothing to do but gather the eggs," do not be too ready to accept the statement. When it comes to setting hens or running an incubator, and caring for the brooder, to say nothing of hawks and other "varmints," I think you will be likely to have exercise enough to give you an appetite about every mealtime. At the same time, when your fowls are carefully fenced in with a good high poultry-netting, so as to make sure that no live animals can crawl or burrow under it, with large-sized feed-hoppers, feed and shelter, and abundance of green food, you can so manage that there will be a good many days when there will be but little to do but "gather the eggs."

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## TEMPERANCE

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### A JUG OF WHISKY FOR A CHRISTMAS PRESENT.

On page 708, June 1, I told you of a tragedy that took place near where I started a Sunday-school, in Osprey, Fla. There was one family in the neighborhood that had had a great deal of trouble. The poor wife had been insane, and had been in an asylum; but she had come home so much better that she was taking care of the children, fixing them up, and finally for the first time, perhaps, in many years, the father and mother and children all came out to a Christmas-tree festival on Christmas eve. They felt bright and happy, and all the neighbors felt glad to see them out once more among folks, and especially at a gathering of that kind. Besides the insanity trouble, the poor mother was stone deaf—she could not hear a word. Well, this man was in the employ of a millionaire brewer. He may not have been quite a millionaire, but he was wealthy. He had bought a place near the Sunday-school chapel, and employed the man of whom I have been speaking as laborer. Just before the holidays he gave all of his helpers a *jug of whisky for a Christmas present*. I think the man who received the whisky did not drink; but a couple of other fellows who did drink

found out about it, went to his home some time after midnight, rapped on the door, and demanded that jug of whisky. Of course, the poor wife did not *hear* any of the racket. The first intimation she had of what was going on was to find her husband's dead body out in front of their home. He was shot because he would not hand over that whisky to a couple of men who were already crazed by drink until they were ready to commit murder or do any thing else. This poor woman (who had at the time a nursing babe) became mentally unhinged again, and who can wonder? They decided she was not fit to take care of her babe, but she declared she would have it, and they had to confine her by main strength to keep her quiet. A little time after that, this wealthy brewer, who gave the whisky as a Christmas present, *committed suicide*, and I have just read in the *Manatee River Journal* that the two men who committed the murder are sentenced to go to the penitentiary for life. Well, this whole thing was again brought to mind by a glaring advertisement of "STRAIGHT KENTUCKY WHISKY FOR CHRISTMAS, 1908." Now, friends, what do you think of the man or men who are so far lost to all sense of Christianity, honor, and decency, as to suggest a *jug of whisky for a Christmas present*?

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## HEALTH NOTES

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### HEALTH, HOME, AND TEMPERANCE.

*Mr. Root:*—I will say, in reference to your little editorial note in last issue of GLEANINGS, that I think your misgivings as to the acceptability of your Home and Temperance Departments are entirely unfounded. These are to me a delightful inspiration and strength, and are undoubtedly the same to thousands of your readers. So far as I am concerned, if you and Mr. Terry keep to your purpose, and live to be centenarians, I hope you will both remain active in your literary pursuits and contributions to the cause of health and temperance. In your food hints, I should be pleased to have your views as to the value of honey for food.

Salem, Ohio, Nov. 12.

T. S. TRAS.

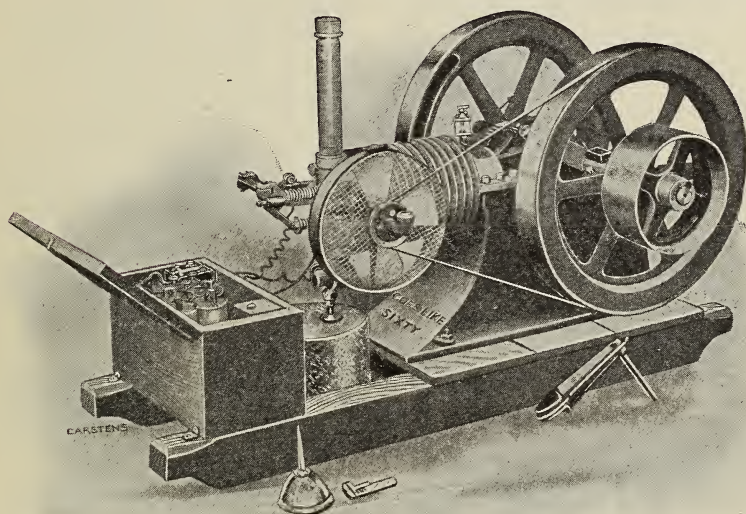
Thanks, friend T. Regarding honey of late years, as I have told you, I find my health very much better when I use little or no sweets of any kind; and I have to be especially careful about cane sugar. A very little well-ripened honey, better still sterilizing it by setting the dish in the oven until the honey is very thick, seems to be all right, say perhaps a few spoonfuls with my rolled wheat. Milk and honey are both *uncooked* foods. I have mentioned before that young people, especially growing children, no doubt require more sweets than grown-up people, especially elderly ones. In the same way, any one who is doing muscular work, and especially outdoors, and more especially still in cool weather, needs sweets of some kind in the same way the Esquimaux need a great amount of fat to furnish fuel for the body. Where honey seems to agree with you nicely, by all means use it, and thank God for it. But I think it is well for us all to be careful about taking our honey or any other dessert after we have made a good square meal. The new diseases that are constantly coming up to afflict our people are, without doubt, caused by overloading our digestive apparatus; and this is often done through carelessness or ignorance. Look out, and beware of "clogging the machinery."

\**Later:*—I finally got them all safely "corraled," during a big snowstorm.



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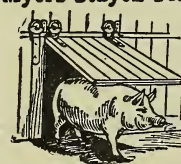


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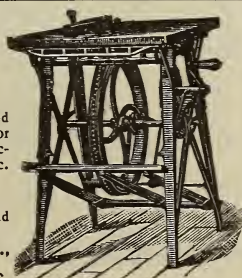
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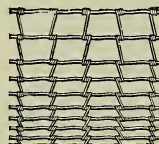
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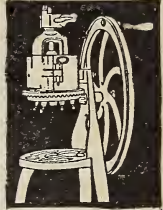
value of grain: is rich in protein and other elements that make more eggs, fertile eggs, livelier chicks, earlier broilers, heavier fowls. Cut it with

## MANN'S Latest Model Bone Cutter

Turns easily; cuts rapidly; never clogs; automatically adjusts itself to any one's strength. Cuts all bone with all adhering meat and gristle.

**Ten Days Free Trial** We ask no money until you try the machine. If not satisfied, return at our expense. Write for catalogue.

F. W. MANN CO., Box 37, Milford, Mass.



**\$750**

Complete 50-egg all metal Hatching & Brooding plant for only \$7.50. The only machine made that does the work in the natural way. Once filling the lamp hatches the eggs and broods the chicks

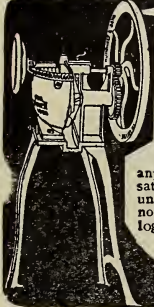
## METAL MOTHERS

Our new system \$1.00 Brooder works to perfection. No danger of fire, overheating or chilling the chickens. Let us tell you about our new way of keeping poultry to get the largest profits. Catalogue free.

Cycle Hatcher Co., 223 Wm. St., Elmira, N. Y.



## WINTER EGGS



Feed cut green bone; save half your grain and double your egg yield. The

### Humphrey

Green Bone & Vegetable Cutter, the only open hopper machine, is guaranteed to cut more bone, with less labor and in less time than any other. Money back if you are not satisfied. It's the one hand cutter; feed under operator's control at all times; no complicated parts. Send for catalogue and special Trial Offer.

**HUMPHREY,**  
Mine St. Factory,  
Joliet, Ill.



**45 Varieties** of practical and fancy pure bred poultry. Beautiful, hardy vigorous. Largest, most successful poultry farm. Thousands to choose from. Big **Profitable Poultry** book tells all about it. Quotes low prices on fowls, eggs, incubators, and supplies. Sent for 4 cents. **Berry's Poultry Farm, Box 153 Clarinda, Ia.**

## INCUBATORS

Hot Air or Hot Water

### MILLER'S IDEALS

The Lowest Priced Standard Machines. Certain results instead of experiments. Send for great, free book, "Poultry for Profit." Finely illustrated and covers every poultry topic. Worth dollars but mailed free, postpaid. Don't wait—SEND NOW to

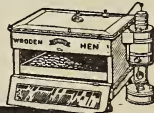
J. W. Miller Co., Box 48, Freeport, Ill.



## Hatch Chickens by Steam

Stahl "Wood-on-Hen" and "Excelsior" Incubators assure big hatches. Well-built, reliable, practical—thousands in use. Catalogue free.

GEO. H. STAHL, Box 36 B, QUINCY, ILL.



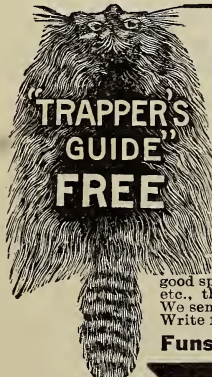
## World's Best Incubator

Has stood all tests in all climates for 15 years. Don't experiment, get certainty. Get a

### SUCCESSFUL

Incubator and Brooder. Anybody can operate them and make money. Let us prove it to you. Booklet, "Proper Care and Feeding of Chickens, Ducks and Turkeys," 10c.

Poultry paper, 1 year, 10c. Write for free catalog. Des Moines Incubator Co., 190 2nd St., Des Moines, Ia.



**"TRAPPER'S GUIDE" FREE**

## Cash For Skins

You get the highest prices and the quickest returns when you ship your furs to Funsten. Coon, mink, skunk, muskrat, marten, fox, wolf, lynx and other furs are valuable. We receive and sell more furs direct from trapping sections than any house in the world. The biggest American and foreign buyers are represented at our daily sales, which run from \$25,000.00 to \$50,000.00 a day. The fierce competition among buyers at our big sales enables us to get higher prices than anyone else. That's why we can send you the most money for your furs, and send it quicker.

### Big Money in Trapping

While work on the farm is slack, do some trapping. It's good sport and pays big profits. We furnish trapping outfits at cost. Traps, Baits, etc., that make trapping easy. Write today for Catalog B and full particulars. We send our New Trappers' Guide, Fur Market Reports and Shipping Tags FREE. Write for them today. Act now, for this is your big money-making opportunity!

**Funsten Bros. & Co., 308 Elm Street, St. Louis, Mo.**

**\$1.00****All****\$1.00****For a Dollar.**

**The SOUTHERN FRUIT GROWER is the best paper I have ever read. L. H. Kessler, Agawam, Mass.**

I have been a regular subscriber to the Southern Fruit Grower from almost its beginning, and enjoy it very much.—J. B. WILLIS, Spartanburg, S. C.

I am nearly 80 years old, still I do not feel like being without the Southern Fruit Grower.—A. BORNSTEIN, Cedar Hill, Tenn.

These are only a few of thousands of subscribers who tell us what they think of the Southern Fruit Grower after reading it regularly for a number of years. If you have an orchard or garden, we know it will please you just as well as it does others. It will **save you money**, and many single issues are worth more than 50 cents, the subscription price for a year; but we want your subscription for three years—\$1.00. Send us the dollar at once and we will send you, absolutely free, three of the following ferns and include a year's subscription to the Household Journal:

**DESCRIPTION OF FERNS:**

**BOSTON FERN.**—The most popular fern. For hanging-baskets or single specimens it is certainly fine; will do better with the amateur than any other variety.

**OSTRICH-PLUME FERN.**—The fronds grow in the most luxuriant manner, each pinna forms a perfect miniature frond, giving it a feathery appearance.

**NEPHROLEPIS WHITMANII.**—An improvement in the "Elegantissima," with still more gracefully divided pinnæ, giving the whole plant an airy lace-like appearance.

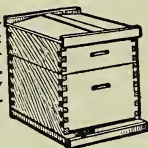
SEND IN YOUR ORDER TO-DAY.

**The Southern Fruit Grower, Dept. B, Chattanooga, Tenn.**

**Bee Supply House****Everything for Bees**

We manufacture the latest approved supplies and sell direct at factory prices. We're old-time bee people in a bee country. We know your needs. Early order discounts. Send for catalog. Don't buy till it comes.

**LEAHY MANUFACTURING CO.**  
10 Talmage St., Higginsville, Mo.  
1699 Sou. 13th St., Omaha, Neb.



1884

1908

Root's Goods always in stock

**FOR YOU**

Twenty-two successful years manufacturing bee-supplies and raising Italian bees and queens. . . .

**J. M. Jenkins****Wetumpka, : : Alabama****The Guide To Nature**

**AN ILLUSTRATED MONTHLY  
MAGAZINE FOR ADULTS**

Devoted to commonplace nature with uncommon interest.

**STAMFORD, CONN.**

**Edward F. Bigelow, Managing Ed.**

For people who see and think.

For people who believe that this is a beautiful and interesting world.

For all students and lovers of nature.

**SUBSCRIPTION, \$1.50 PER YEAR.  
SINGLE COPIES, 15c. NO FREE COPIES.**

Every number is worth more than the price asked, costs more—therefore we can not distribute free.



## HILTON'S Strain of Bees and What They Did

*Dear Friend Hilton:*—The two three-frame nuclei I received of you May 21 were received in fine condition, and the red-clover queens proved themselves worthy of the name. I never saw finer or gentler bees. They were transferred to ten-frame hives and full sheets of foundation. I now have four strong colonies, with plenty of stores for winter, and have taken 195 lbs. of fine extracted honey, mostly clover. I want two more nuclei for next spring delivery, and my neighbor wants another. You may use this letter or any part of it as you choose.

Gratefully yours,  
Rhinelander, Wis., Sept. 14, 1908. G. C. CHASE.

In addition to the above I have sold friend Chase about \$200 worth of ROOT GOODS, which deserve some credit for the above results—the best of every thing is none too good. ROOT'S GOODS and GLEANINGS helped. If you are not taking GLEANINGS, WHY NOT? For an order of \$10.00 before Jan. 1 I will give GLEANINGS one year; \$20.00, two years; \$30.00, three years; or you may have GLEANINGS from now to the end of 1909 for \$1.00; two years for \$1.50; three years for \$2.00. SEND FOR MY 40-PAGE CATALOG. CASH FOR BEESWAX, or will exchange goods for it.

**GEO. E. HILTON**  
FREMONT, MICH.

## WESTERN BEE-KEEPERS

will SAVE TIME  
and FREIGHT by  
ordering ROOT'S  
GOODS from  
Des Moines, Iowa.

A Full Line of

## Shipping - cases

Honey-extractors,  
and all other seasonal  
goods now on hand. . .

We are also prepared to supply  
goods for next season's use at  
special discounts.

Estimates cheerfully given. Send  
us a list of your wants and get  
our net prices by letter.

**JOS. NYSEWANDER**

565-7 W. 7th Street, Des Moines, Iowa

# Merry Christmas



We're talking to the  
wives and daughters in the  
families where GLEANINGS  
goes. Why don't you get  
*him* something that will suit  
him better than any thing else  
for Christmas, and that is to renew  
his subscription to GLEANINGS or  
get him a copy of the new 1908 edi-  
tion of the A B C and X Y Z of  
Bee Culture?

### Offer No. 1

Gleanings one year, and a bee-veil  
with a silk tulle front, \$1.15.

### Offer No. 2

A B C and X Y Z of Bee Cul-  
ture, 1908 edition, and bee-veil, both  
postpaid, \$1.65.

### Offer No. 3

Gleanings one year, A B C and  
X Y Z of Bee Culture, and bee-veil,  
all postpaid, \$2.40.

### EXTRA

The Christmas number of GLEANINGS,  
and all of 1909 are included.

We will mail to separate addresses parts  
of the same offer.

When requested we will send a personal  
letter to any address announcing the offer  
as a Christmas gift, and giving the name  
of the giver.

We will mail so as to reach destination  
as near Christmas Day as possible.

No matter where you are located in the  
United States, you can take advantage of  
these offers.

**M. H. Hunt & Son**

Lansing, Michigan

# New Goods for 1909



## Good News for the Southwestern Bee-keeper

The strenuous season of 1908 left our stock of bee-supplies in a depleted condition. We have now replenished our stock with large shipments of the finest bee-goods ever seen in the Southwest. These are

## Root's Goods Exclusively

We have not dared to experiment with any other line of bee-supplies; and from the looks of our new goods we shall never need to. They are "as fine as silk." We should be glad if our customers would come and see them. You will be pleased with the best ever. Come along and enjoy a day in San Antonio, picking out what you want while your wife goes shopping. Seeing is believing, and we would far rather hear you puff our goods than do it ourselves. But we honestly believe we have not only the largest line of bee-supplies in Texas, but also, by far, the best in quality.

## Order Now

Please don't wait till the last hour before ordering, when we are buried out of sight with orders all wanted the same day we receive them. Last spring we lost a great deal of sleep on account of being swamped with orders, and we had to work far into the night to catch up. Some nights we worked all night long. We know there are many who can just as well order right now, and save both themselves and us considerable anxiety during the busy season.

Early-order discount—4 per cent for January; 3 per cent for February.

## Catalogs Free on Demand

With our catalog in hand you can pick out the various items required, at your leisure. When you make out an order, send it to us and we will do the rest. It will be regarded as a favor from you, and be appreciated accordingly.

**Toepperwein & Mayfield**  
1322 South Flores St.  
San Antonio, Texas



## FASHION BOOK FREE!

I want to send you my handsome new book showing hundreds of latest styles with illustrated lessons on cutting and dressmaking. I will agree to sell you all the patterns you want for five cts. each. They are the same patterns you have always paid 10c & 15c for at the stores, made by the same people, and correct in every detail.

### HOW I DO IT.

I publish the **FARMER'S CALL**, a weekly paper for every member of the family. An especially interesting feature each week are the children's letters; and the Woman's Department is unusually strong and instructive. Among the special features for Women folks, is its fashions in which I show the **5c patterns**. Let me help you to save money.

### MY SPECIAL OFFER

Send me 25c and I will send you the **FARMER'S CALL** every week (over 1000 pages) for one year and will send my big Fashion Book to you free. I also agree to sell you any pattern you want thereafter for 5c. I can sell them for 5 cts because I buy them by the thousand and don't make any profit. I don't want the profit. I want your subscription to the **FARMER'S CALL**. You will save many times the cost of my offer in a year. **WRITE TO-DAY!**

**JOHN M. STAHL, Dept. G, QUINCY, ILL.**



## Flower Language

## Post Cards

A series of 12 beautiful cards

## FREE

### TO YOU

Do you know the language the flowers talk? Here is a wonderful series of twelve beautiful Flower Language Post Cards that I will send to you absolutely free. Only send me ten cents for a six month's trial subscription to my big 24-page Journal, **THE GLEANER**, which is of interest to every member of the family, and I will send you all twelve of these beautiful cards absolutely free as a present. Each card portrays a different cluster of life colored flowers arranged in artistic designs reproduced from paintings by J. Leslie Melville. Each card has a beautiful poem written by C. Prest in Wynne, revealing the language of the flowers in verse. Think of it,

## 12 Beautiful Post Cards

and **THE GLEANER** for six months on trial for only 10 cents and **REMEMBER** that if you will write me at once I have a *surprise for you*. Don't forget to ask about it. Don't lay this down and say "I'll send for these tomorrow;" **WRITE RIGHT NOW.**

**G. H. SLOCUM, Publisher**  
904 Majestic Bldg. Detroit, Mich.

## A YEAR'S WORK IN AN

Paper bound **OUT-APIARY** By Doolittle

If you run an out-apiary, or intend to have one, this book will be invaluable to you. Costs only 50 cents postpaid. Order now of

**THE A. I. ROOT COMPANY, MEDINA, OHIO**

I am still offering the best quality of

## Bee-keeping Supplies for Least Money

Send list of goods wanted for best prices, which will please you. Italian bees for sale; also Barred Plymouth Rock and White Wyandotte Cockerels, \$1.00 each. Catalog ready January 1st. Send for it.

**H. S. DUBY, - ST. ANNE, - ILLINOIS**

# BEE-SUPPLIES FOR SEASON OF 1909

Complete stock on hand, as our plant has been running steadily so as to take care of the demand for **bee-supplies** the early part of the coming season. We are practically overstocked at this time and advise those in need of **bee-supplies** to order now (shipments may be delayed until you want the goods) before the contemplated advance in prices all along the line. Lumber is dearer and labor has never been so high, but we agree to protect our patrons at present prices upon receipt of their orders at this time.

Being manufacturers we buy lumber to advantage, have lowest freight rates, and sell on manufacturers' profit basis. Let us quote you prices. Prompt shipment guaranteed.

**MINNESOTA BEE SUPPLY CO., 123 Nicollet Island, Minneapolis, Minn.**

# This Coupon Worth 35 cents

(New Subscribers Only)

Name .....

Postoffice .....

State .....

If not now a subscriber and you want one of the most helpful aids to successful bee-culture—a paper that tells how to make your bees pay—you should subscribe for the

### AMERICAN BEE JOURNAL

A 32-page illustrated 75-cent monthly. It tells all about the best way to manage bees to produce the most honey; with market quotations, etc. A dozen different departments—one for women bee-keepers. Best writers.

### It Will Increase Your Honey-Money

If you will send us your name and address with 40 cents (stamps or coin) together with this coupon, we will send you a trial trip of our Journal for 12 months. Order now and let us begin with this month's fine number. Address,

**American Bee Journal, 118 West Jackson, Chicago, Illinois**

Oldest Bee-paper in America

Now in its 48th Year

# Hammer Free!

With Every Order of Supplies of \$5.00 or Over....



This is the handiest tool for nailing up hives, frames, and all parts, or for opening up hives. . . . . Made of steel, nicked. Four per cent discount off all prices in the catalog.

**FULL LINE OF  
ROOT'S GOODS**

No Charge for Drayage

**John N. Prothero**  
Dubois, .. Pennsylvania

## You hate a cutter of prices=So do we

The house of Root, for the past 25 years, has sustained prices. Why? On account of QUALITY.

**Our aim is:**

QUALITY . . .	FIRST
SERVICE . . .	SECOND
PRICE . . .	THIRD

We guarantee QUALITY.

**The A. I. Root Co.**

Syracuse, == == New York

## The Barteldes Seed Co.

of DENVER

**Ask Western  
Bee-keepers  
to Remember**

that their store is ROOT'S headquarters in the great Rocky Mountain region of which Denver is the hub. No need to send east for any thing in the bee-line. Large orders are just what we want and can fill. Small orders are very acceptable, and we take every care with them. This is the best time to make out an order, both for us and the customer. Do not delay till spring. Get in the habit of sending your order for bee-supplies here. It saves you both time and money, and stimulates us.

*To All Bee-keepers a Merry Christmas.*

**THE BARTELDES SEED COMPANY**

1521-1525 Fifteenth Street  
DENVER, COLO.

## APICULTEURS

des pays de langue Francaise  
Nous vous informons que

**L'Apiculture Nouvelle**

Revue mensuelle illustree,

est tiree de

**Gleanings in Bee Culture**

augmentee et completee par des collaborateurs Europeens, reconnus comme Apiculteurs eminents.

L'abonnement d'un an est envoye franco pour tous pays de l'Union Postale, contre l'envoi par mandat poste de frs. 6.50 ou \$1.30.

Un numero specimen, ainsi que notre catalogue francais de tous les articles de la

**A. I. ROOT CO.**

est envoye gratuitement sur simple demande, adreesee a

**Emile Bondonneau,**

Agent General pour l'Europe et les Colonies

de la **A. I. ROOT CO.,**

142 Faubourg Saint Denis 142, Paris (10e), France.



# TEXAS SEED and FLORAL CO.

Carry "ROOT QUALITY"

**BEE HIVES and SUPPLIES in STOCK**  
at DALLAS, for immediate shipment

## Bee-keepers' Supplies

Write for catalog of these goods, or order from Root's catalog. Factory prices F. O. B. Dallas. Bee-keepers in this territory will no doubt find it very convenient and exceedingly advantageous to have goods shipped from Dallas, thereby saving some time and freight.

## Beeswax and Honey

We buy beeswax, and sell honey on commission. Mail small sample with quotations.

## Field and Garden Seeds

Sweet clover is considered excellent for bee pasturage; choice clover seed in stock. Illustrated catalog, describing the best field and garden seeds for the South, mailed on request.

## Poultry-supplies

If you raise chickens, write for special catalog of Poultry-supplies, of which we carry the largest and most complete line in the South.

# TEXAS SEED and FLORAL CO.

DALLAS, TEXAS



## CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

### Honey and Wax for Sale

FOR SALE.—50 cases of raspberry-basswood blend of extracted honey; 20 new 60-lb. cans to the case, f. o. b. Boyne Falls, Mich.; where our north bees are located, at only 9 cents per lb., left on the hives until August before extracting, then nothing but all seasoned honey was put into this grade. The unsealed combs were extracted by themselves, and went to the baker. By this mode of handling there is nothing on the market to compare with this stock, and the price is only a little above the ordinary for this rich, delicious, ripe stock. Many pages could be filled with testimonials of my superior stock of extracted honey, but I have room for only one, the last one in:

WEST SENECA, N. Y., Dec. 2, 1908.

E. D. Townsend, Remus, Mich.

DEAR SIR:—The honey arrived O. K. It is the finest I ever tasted.

Yours truly,

F. W. HALL.

I can furnish circular and sample of this honey for the asking.

E. D. TOWNSEND, Remus, Mich.

FOR SALE.—My new crop of white-clover extracted honey. Honey has been left in full charge of the bees for three weeks after harvest, and is rich, waxy, and of fine flavor, and is as good as a specialist can produce. Price is 8c. per lb. by the case of 120 lbs. or for the entire crop. Cash to accompany order.

LEONARD S. GRIGGS, 711 Avon St., Flint, Mich.

RASPBERRY HONEY, left on the hives until thoroughly ripened; thick, rich, delicious; put up in new 60-lb. tin cans; \$6.25 for one can; two or more cans at \$6.00 per can. Sample ten cents, and the ten cents may apply on the first order.

W. Z. HUTCHINSON, Flint, Mich.

FOR SALE.—Buckwheat, amber, No. 2 white comb, \$2.50 per case of 24 sections; unfinished and candied comb, \$2.00 per case; amber extracted ( $\frac{3}{4}$  clover), two sixty-pound cans to case, at 8 cts.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—Choice extracted honey for table use, gathered from clover and basswood—thick, well ripened, delicious flavor. Price 9 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.

J. P. MOORE, Queen-breeder, Morgan, Ky.

FOR SALE.—I have some extracted honey, well-ripened, fine, clover and basswood, in new five-gallon round cans, at \$5.50 a can; sample free; delivered f. o. b. cars here; ought to suit anybody.

MATHILDE CANDLER, Cassville, Wis.

FOR SALE.—Clover, amber, and buckwheat extracted honey. Table quality. Write for prices, stating your needs.

C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

FOR SALE.—Choice white-clover extracted honey, in new 60-lb. cans, or any shape desired. Ripened on the hives and guaranteed strictly pure. Sample free

J. F. MOORE, Tiffin, O.

FOR SALE.—Fine extracted white-clover honey; also light amber fall honey, put up in barrels, 60-lb. and 10-lb. cans. Write for prices.

DADANT & SONS, Hamilton, Illinois.

FOR SALE.—1000 gallons of extracted white-clover honey in 60-lb. cans, two to a case, at 8 cts. per lb. by the case, or for the entire crop f. o. b. cars here.

ADAM BODENSCHATZ,  
Lemont, Ill.

FOR SALE.—Honey by the barrel or case—extracted and comb; a bargain in honey. Write now.

JOHN W. JOHNSON, Box 134, Canton, Mo.

FOR SALE.—About 2000 lbs. of fine comb honey, mostly smartweed and Spanish needle; extra nice.

JOHN A. THORNTON, Ursa, Ill.

FOR SALE.—Eight tons of extracted alfalfa honey, perfectly ripened,  $7\frac{1}{2}$  cts. per lb.

V. V. DEXTER,  
North Yakima, Wash.

FOR SALE.—Buckwheat extracted honey, 160-lb. kegs at  $6\frac{1}{2}$  cts.; 60-lb. tins at 7. J. I. PARENT, Ballston Spa, N. Y. Rt. 2.

FOR SALE.—2000 lbs. No. 1 clover and basswood extracted honey in 60-lb. cans. FRANK MONTEFELT, Juda, Wis.

FOR SALE.—2000 lbs. white-clover extracted honey, 8 cts. in barrels;  $8\frac{1}{2}$  in 60-lb. cans. G. RUTZAHN, Biglerville, Pa.

FOR SALE.—Best quality alfalfa in cases of two 60-lb. cans, \$8.40 per case, f. o. b. here. H. E. CROWTHER, Parma, Ida.

FOR SALE.—Fine buckwheat honey in new cans. Send for sample and prices. EARL RULISON, Rt. 1, Amsterdam, N. Y.

### Honey and Wax Wanted

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.

R. A. BURNETT, 199 South Water Street, Chicago, Ill.

WANTED.—25 tons of fancy comb honey. Write, stating particulars, to C. M. CHURCH, New Kensington, Pa.

WANTED.—Choice extracted basswood or clover honey. Prompt payment on receipt. Write full particulars, with sample. H. C. AHLERS, West Bend, Wis.

### For Sale

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Melilotus (sweet clover) seed for sale at 8 cts. per lb. Write for catalog and particulars.

W. P. SMITH, Penn, Miss.

200 Bee Hives at a sacrifice; practically as good as new; set up and well painted, ready for the bees. Shipped to take K. D. rate. Regular Dovetailed and Langstroth, \$1.00 each. Langstroth-Simplicity and plain joint hives, 75 cts. each; four-frame automatic extractor, \$17.00. 60-lb. can honey, \$5.95.

L. M. GULDEN, Osakis, Minn.

FOR SALE.—One model F. Ford two-cylinder 16-horse-power five-passenger automobile. The rear seat is easily taken off, and we have used this car for delivering honey and for visiting our apiaries—a fine car, good as new. Write us for price and information.

JOHN A. THORNTON, Ursa, Ill.

FOR SALE.—One Pineland 300-egg incubator, cost \$50.00, in perfect working order; 100 clear-pine  $\frac{7}{8}$ -inch egg-cases, planed and painted; heavy berry-crates, painted; or will exchange for bee-hives, crates, etc., foot or power saw, or any thing useful to me.

L. C. JUDSON, Franklin, N. Y. R. D.

FOR SALE.—Female Scotch Collie, one year old; thoroughbred, affectionate and obedient; well marked, and a fine individual. Write for price and pedigree.

C. A. WURTH,  
Fayetteville, Ark.

FOR SALE.—Barnes foot-power circular saw, almost new, little used, with five circular saws and one emery wheel one inch thick; bargain at \$20.00.

FRED. HOLTKE, Southold, L. I., N. Y.

FOR SALE.—Hound pups 3 months old, bred for real business, or will exchange for double 12-gauge or repeating shotgun in good condition.

E. L. HASKINS, Newstate, Mass.

FOR SALE.—Nearly new Oliver typewriter; No. 5, latest model, perfect condition. L. H. RANDALL, Medina, Ohio.

FOR SALE.—Revolver; double-action, safety hammerless, 38 caliber, perfect condition, cheap. J. E. MASON, Medina, O.

### Poultry Offers

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.

STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.



## Bees and Queens

FOR SALE.—Moore's strain and golden Italian queens, untested, \$1.00; six, \$4.00; twelve, \$7.00. Camiolan, Banat, and Caucasian queens, select, \$1.00; six, \$5.00. Tested, any kind, \$1.25; six, \$6.00. Choice breeding queens, \$3.00 each. Circular free. W. H. RAILS, Orange, Cal.

FOR SALE.—Italian bees and queens now ready. Untested, \$1.00; tested, \$1.50. Bee-keepers' supplies, Root's goods. Send for prices. Eggs from Silver-laced Wyandotte poultry. N. V. LONG, Biscoe, N. C.

FOR SALE.—1000 colonies of bees with fixtures; run principally for extracted honey. DR. GEO. D. MITCHELL & CO., 340 Fourth Street, Ogden, Utah.

FOR SALE.—Apiaries and queen-rearing business in Southern California. Full particulars on request to E. M. GRAVES, Iamosa, San Bernardino Co., Cal.

You can win out if you send a postal for my Circular of Italian and Caucasian queens. Nothing like it. A. D. D. WOOD, Box 61, Lansing, Mich.

FOR SALE.—100 colonies of Italian bees, with outfit and fixtures. Price reasonable. CLYDE CLEMENS, Crawfordville, Iowa.

## Wants and Exchanges

WANTED.—Bees for second-hand hives, thoroughly cleaned by steam; size 16x16; 10½ inches deep, ten-frame; suitable for the production of comb or extracted honey. Many of these hives are almost new. Would consider sending a carload to some responsible Texas apiarist in good locality for increase to fill on shares. THOS. J. STANLEY, Manzanola, Otero Co. Colorado.

WANTED.—1000 extracting-combs, small steam-engine, and bee-supplies; also have a fine set of watchmaker's tools and material; will trade or sell. Spit it out quick. JOHN H. KOONTZ, Stewardson, Ill.

WANTED.—To buy a home and apiary in a good honey location, free from bee diseases, with good fishing and drinking water. Western States preferred. Give price and terms in first letter. Address TRANSIENT, Sunny Side, Cal.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price. OREL L. HERSHISER, 301 Huntington Ave., Buffalo, N. Y.

WANTED.—To exchange berry-plants, the best varieties that grow, for foundation and bee-supplies. JOHN D. ANTRIM, Burlington, N. J.

WANTED.—400 colonies of bees in California or Texas. DR. GEO. D. MITCHELL & CO., 340 Fourth Street, Ogden, Utah.

WANTED.—A foot-power saw in good condition, for spot cash. F. W. BUCK, Muncy Valley, Sullivan Co., Pa.

WANTED.—To buy an apiary in the South. State lowest cash price. WM. CARDER, Ludlow, Ky.

WANTED.—An apiary on shares in California. P. C. SPRINGBORG, Thermal, Cal.

WANTED.—50 chaff hives for L. frames. State conditions and price. R. S. MARSHALL, Tribes Hill, N. Y.

## Help Wanted

WANTED.—Capable man 30 to 40 years of age, married, to take charge of small farm in Ohio. State experience, salary wanted, date could begin, and give names of references. Address JOHN SMITH, Gleanings in Bee Culture, Medina, O.

WANTED.—A hustling helper in the bee and honey business; preferably one who would have some money to invest with a view to securing an interest in a well-established and paying business. B. WALKER, Clyde, Ill.

WANTED.—Three experienced apiarists. One must understand queen-rearing; 5 yards, 1100 colonies. State age, nationality, and salary expected. R. M. SPENCER, Nordhoff, Cal.

## Situation Wanted.

WANTED.—Situation. I have put in 14 straight years of up-to-date bee culture; am able to take charge of large interests; am 36 years old, strictly temperate; wish to work on shares if possible. Address A. LANZ, Fairmont, Los Angeles Co., Cal.

WANTED.—Position with bee-man for 1909 by a young man 33 years of age; honest and upright; no use for tobacco or liquor; have worked one season with a bee-man. Distance is no objection; or I should like to buy out some bee-man or go halves. CARL ERIKSON, St. Ansgar, Iowa.

WANTED.—To correspond with California bee-keepers who could use an old man who is well posted in the bee business. I have had long experience in large apiaries. J. LAWRENCE, Box 120, Soldiers' Home, Los Ang. Co., Cal.

## Post Cards.

Eight beautiful Christmas or New Year's Cards mailed for 15c; 13 for 25c. Also birthday, comic, or miscellaneous cards. Say what you wish, and whether for adults or children. M. T. WRIGHT, Medina, Ohio.

## Bee-keepers' Directory

I no longer club a queen with GLEANINGS. W. T. CRAWFORD, Hinesston, La.

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

No more queens for sale this fall. A. W. YATES, 3 Chapman St., Hartford, Ct.

Golden yellow Italian queens my specialty; 1909 price list ready. Safe introducing directions. E. E. LAWRENCE, Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog. D. COOLEY, Kendall, Mich.

Well-bred bees and queens. Hives and supplies. J. H. M. COOK, 70 Cortlandt St., New York City.

For bee-smoker and honey-knife circular send card to T. F. BINGHAM, Farwell, Mich.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies. ALISO APIARY, El Toro, Cal.

Golden-all-over and red-clover Italian queens; circular ready. W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free. GEO. S. GRAFFAM & BRO., Bangor, Maine.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed. H. C. CLEMENS, Boyd, Ky.

Improved Italian queens now ready. Nuclei and colonies May 1 to 10. Over twenty years a breeder; 500 colonies to draw on. Free circulars and testimonials. For prices see large advertisement in this issue. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

ITALIAN BEES AND QUEENS. I breed three-banded stock only, and use the finest breeding stock to be had. Send for price list. Twenty-five years' experience. F. J. WARDELL, Uhrichsville, O.

Breeding queens of pure Caucasian and Camiolan races—price \$3.00. Order from A. E. Titoff, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

## Real Estate for Bee-keepers

**PECOS VALLEY** of New Mexico lands are coining \$50 to \$65 net per acre per year from alfalfa. Forty-five thousand acres of alfalfa in bloom five times a year, surrounding Artesia, means *honey for the bee-keeper*. Live in an ideal fruit country, where the largest artesian wells in the world constantly pour out their wealth. Artesia, the future Rose City, already has the famous "Mile of Roses." Homeseekers' excursions the first and third Tuesdays of each month. Agents wanted, to accompany parties. Write to-day to R. M. LOVE, General Agent, Artesia, N. M.

**FOR SALE.**—Five or ten acres in the beautiful town of Orlando, Fla. Will sell very cheap, or exchange for Canadian property. C. H. LEWIS, 85 Victoria Ave. N., Hamilton, Ont., Can.

**FOR SALE.**—In Franklin Co., Tenn., 87 acres of land 3 miles from railroad; 40 acres cleared, the rest in timber. For terms apply to W. T. LYONS, Decherd, Tenn.

**FOR SALE.**—32 acres land, orange-grove, apiary and chicken ranch. J. W. BANNEHR, Bradentown, Fla.

## SPECIAL NOTICES

BY OUR BUSINESS MANAGER

Subscribers who want their friends to see and have a copy of our Christmas issue may refer them to their local news-stand where this issue will be on sale.

### MARKETING HONEY.

The problems of the bee-keeper have not all been solved when he has learned to secure each year the largest crop of honey possible and put it up in the most marketable shape, for it has been apparent that large losses are sustained by some of the most capable honey-producers when they come to market the product of their apiary, the entire honey crop of the season.

One of the chief causes of the losses referred to has been the shipping of large consignments of honey by bee-keepers to unreliable dealers. Another is the shipping to commission houses who have no regular trade in honey, and who are, therefore, unfamiliar with its proper care and do not know where or when to put it on the market to the best advantage. For a number of years, though not so frequently of late as was the case some five years and more ago, we received, every fall, reports from bee-keepers who had been swindled out of large shipments. To avoid this we have endeavored to give the announcements of the most reliable honey-dealers in our columns regularly, and in this way head off unreliable people who solicit shipments of honey from unsuspecting bee-keepers. We take pleasure in calling particular attention to the advertisers whose announcements are found in this issue, as they represent the large honey-dealers throughout the country. Do not make the mistake of shipping to your nearest city, as it may be found that some other market may be better. On the other hand, inquire about several markets, and you may find it an advantage, after getting a satisfactory outlet with a certain dealer, to stay with him year after year, even though another market may be a little more tempting occasionally. If you want to buy honey you should certainly get prices from those dealers who advertise honey for sale before making your purchase. They can save you money in many instances. Pre-serve these advertisements for frequent reference.

### JAPANESE BUCKWHEAT SEED.

We have secured a nice lot of seed of the Japanese buckwheat, grown for us the past summer. As it is out of season we are willing to make quite a concession in price to reduce stock at present. For orders placed before January 15th, accompanied by payment, we will furnish seed in new bags, included without extra charge. One bushel, \$1.25; two bushels, \$2.25; ten bushels, \$10.50.

### SWEET-CLOVER SEED.

We have on hand a good stock of choice sweet-clover seed, both white and yellow. Of the white we have both unhulled and hulled seed, and of the yellow we have at present about 250 pounds hulled, and have engaged a lot of unhulled yellow which is expected to arrive soon. It is usually difficult to supply the entire demand of unhulled white and yellow, and we suggest immediate orders to be sure of getting from our present stock. Prices are as follows:

In lots of	1 lb.	10 lbs.	25 lbs.	100 lbs.
Unhulled white, per pound,	\$.15	\$.13	\$.12	\$.11
Hulled " " "	.22	.20	.19	.18
Unhulled yellow " " "	.18	.16	.15	.14
Hulled " " "	.25	.23	.22	.21

The prices are all subject to market changes.

### SECOND-HAND COMB-FOUNDATION MILLS.

We have to offer the following list of comb-foundation mills, which have been used but are in good condition to use, by one who wants to make his own foundation and is not particular about slight defects in the cell faces. Samples from these machines will be mailed to those interested on application.

No. 075.—2x9-inch round-cell, medium-brood mill in fair condition. This is a very old pattern, made about thirty years ago; has been kept in good shape. Price \$10.00.

No. 079.—2½x6 hex. cell extra-thin-super mill in good condition; bargain at \$12.

No. 084.—2x10 round-cell medium-brood mill in fair condition. Price \$12.00.

No. 085.—2½x6 hex. cell thin-super mill in very good condition. Price \$12.00.

No. 086.—2½x6 hex. cell extra-thin-super mill in excellent condition. Price \$15.00.

No. 092.—2½x6 hex. cell extra-thin-super mill in extra good condition. Price \$15.00.

No. 0100.—2½x6 hex. cell extra-thin-super mill in good condition. Price \$10.00.

No. 0102.—2½x6 hex. cell extra-thin super mill in good condition. Price \$10.00.

No. 0103.—2½x10 hex. cell medium-brood mill in fine condition. Price \$18.00.

No. 0104.—2½x10 hex. cell medium-brood mill in good condition. Price \$16.00.

No. 0105.—2½x10 hex. cell light-brood mill in fair condition. Price \$10.00.

### HONEY-PAMPHLETS.

To answer the numerous inquiries we are receiving regarding prices on the pamphlet entitled Food Value of Honey, by Dr. C. C. Miller, we quote the following:

Prices: 10, 5 cts.; 100, 20 cts.; 500, 75 cts., all postpaid; 1000, 75 cts.; 5000, \$3.50; 10,000, \$6.50. If you desire your own name and address on the first page, add \$1.00 extra to the above prices. Should you desire your own advertising card on the last page instead of our own, the price will be \$1.50 more; or \$2.50 extra for your name and address on the front page, and your advertising card on the last page. Already folded, the price will be 50 cts. per 1000 extra.

## Convention Notices.

The University of Tennessee, Knoxville, again announces a course in bee-keeping, March 1—13, conducted by Prof. G. M. Bentley. The subjects are, study of the habits and development of the honey-bee; types of bees; queen-rearing; methods for improving run-down apiaries; diseases and parasites, with remedies. Management of an apiary; types of hives; the out-apiary; selection and culture of bee-plants. For particulars, address Prof. Bentley.

### BEE-KEEPERS' ATTENTION.

The annual meeting of the Missouri State Bee-keepers' Association will convene at the county court-room of Columbia, Mo., Jan. 6, 1909, at 9 A. M. and will remain in session for two days. All persons interested in bee-keeping are invited to attend the meetings.

An interesting program will be prepared that all bee-keepers present may be benefited.

Our meeting takes place during Farmers' Week, when also the Horticultural Board, the Live-stock Breeders, the Dairymen, Sheep-breeders, Swine Growers and Breeders, Highway Engineers, and Housekeepers' Conference will meet, and the members of the State Board of Agriculture will be present at Columbia.

Accommodation can be had at the hotels, or at reasonable rates at private boarding-houses.

ROBT. A. HOLEKAMP, Sec.,  
4263 Virginia Ave., St. Louis, Mo.

The Northern California Bee-keepers' Association will hold its third annual convention on the 21st and 22d of December, at Pioneer Hall, Sacramento, Seventh St., between J and K. This association is composed entirely of honey-producers; was organized by them and for their benefit alone. It aims to help those with a few colonies as well as those whose colonies number into the hundreds.

The benefits to be obtained from attending these meetings are many.

I. In a social way.

Here we meet our old friends and renew friendships; also meet many new members.

II. In obtaining knowledge pertaining to our chosen pursuit.

At these meetings there are also many practical bee-keepers who have made money keeping bees and are ready to talk on any subject pertaining to the industry, telling of their success and failures of past years, and no member can help being benefited.

F. J. LEWIS, President.

B. B. HOGABOOM, Sec.-Mgr.



## Special Notices by A. I. Root

### MY 69TH BIRTHDAY.

To-day, Dec. 9, I am 69 years old, and thanking God that our five children and eight grandchildren are all alive and well. The last arrival, a week ago to-day, is especially alive when the time comes for her "ration." Mrs. Root and I expect to leave for Florida just as soon as I can get in my vote, December 15, to make Medina Co. dry.

### THE WRIGHT BROTHERS UP TO DATE.

If I am correctly informed, Orville Wright has so far recovered that he has left his home in Dayton, Ohio, and is now on his way to join his brother in France; and the papers tell us that his brother, Wilbur Wright, now has hopes that he can construct a flying-machine that will fly without a motor. I can not understand what he means by this unless he has reason to think it possible to find ascending currents that will take him up into the air, and that, when once aloft, he can guide his ship so as to find other ascending currents that will enable him to fly as birds do for hours without flapping a wing. Perhaps this is only a newspaper fiction; but there may be a kernel of truth in it after all.

### TWO SWARMS IN ONE DAY.

"Well, what of it?" you may ask. Two swarms of bees in one day is certainly nothing remarkable for a bee-keeper with even a small apiary. But these two swarms I have in mind came in December; but even this would be nothing remarkable if it had happened down in Florida; but it was not in Florida, but in Medina, O., on the 2d of December, 1908; and if you will let me explain a little I will tell you why it was an event in the eyes of all Rootville. Mrs. Root had just one sister, the wife of Neighbor H., who used to be a bee-keeper, and write for GLEANINGS. Well, Neighbor H. has a daughter, and this daughter is only about five weeks older than her cousin, Carrie Belle Root, now the wife of Llewellyn W. Boyden. Well, these two cousins each gave birth to a little stranger, and both came to Rootville (strange to tell) on the same day, and only a few hours apart, and, of course, there is great rejoicing. One is a boy, and the other is a girl. The father of the boy is our head book-keeper, Mr. Neal Kellogg. The father of the girl baby is Mr. Boyden, a younger brother of A. L. Boyden. Mr. L. W. Boyden, as you may remember, has until recently had charge of our house in New York city. Of course you will recall what I have told you, on several other similar occasions, that no colony of bees can be really prosperous unless brood-rearing is going on pretty nearly every month in the year. There must be frequent accessions of young blood to keep up and perpetuate a healthy growth in the parent colony. May God be praised for all his mercies; and may he help us all to remember the responsibilities that rest upon us to train up these little ones in such a way that when they get old enough they will, of their own accord, hold fast to "the straight and narrow path."

### WHAT PERIODICALS WILL YOU SUBSCRIBE FOR, FOR 1909?

You may be aware, friends, that we exchange with more than a hundred periodicals of different kinds; and just now I am called on to consider which ones I shall select, from this great array, for reading in my Florida home during the coming winter.

First I want the *Sunday School Times*, because its standard of morals, not only in its reading columns but in its advertisements as well, is higher, it seems to me, than perhaps that of most of the religious periodicals.

Next I want the *Rural New-Yorker*, because it not only also upholds the highest and best morals, but it shows up swindlers, fearlessly and unsparingly, and everybody else who preys on the homes of our land.

Then I want the *Practical Farmer*, because T. B. Terry tells us in it every week how not only to live but to live and be happy until we are a hundred years old, or less.

Then I want the *Ohio Farmer*, because, while it posts us on every thing belonging to the farm and to farm life, it also puts in tremendous sledge-hammer blows against the American saloon.

Next I want the *Country Gentleman* because it is a country gentleman, and dignifies the farmer's calling.

I want also the *Farm Journal*, which, while it holds up righteousness and temperance, as well as agriculture, costs so little that it is almost a shame to be without it.

And there may be still other farm periodicals that may be just as good as the ones I have mentioned, but I am not so well acquainted with them, perhaps because I have not had them, as I have those I have mentioned, all my life.

You may be surprised that I do not enumerate any of the magazines. To tell the truth, dear friends, I have not yet seen a magazine that seems to inculcate on every page such a high standard for the home as the periodicals I have mentioned. I have also omitted a great list of religious periodicals, and the principal reason is so many of them accept and continue a class of advertising that would not be accepted by our best farm papers, such as I have mentioned. I do take a daily paper, but I do so under

protest. I have written to several of our great city dailies, saying that, when one could be found that rejects whisky advertising, I would use all my influence to get people to subscribe for it.

Among the others, I shall have 25 or 30 poultry-papers. At the present writing I have found only two that are willing to lose some of their advertising by coming out boldly against swindles and frauds. One of these is *Poultry*, published at Peotone, Ills., and the other is the *Petaluma Poultry Journal*, published weekly at Petaluma, Cal.

Of course, I take, and shall always take, the *American Issue*, the exponent of the Anti-saloon League, Columbus, O.

Besides the above I shall take our home papers, the *Medina Gazette* and the *Manatee River Journal*, Bradenton, Fla.

Everybody should subscribe for and help along one or more of the papers published in their own town. If they are not what they ought to be, turn in and help the editor make them better.

## KIND WORDS.

We enjoy your Home talks in GLEANINGS. Advice and pointers coming from one who has raised a family, and knows what that means, comes as encouragement to us younger inexperienced fathers and mothers. May your life be spared to continue your part of GLEANINGS. MRS. C. E. CARLSON.  
Koekuk, Iowa, Dec. 1.

### HELPED TO MAKE THEIR VILLAGE DRY.

I just finished the Home paper, which I have read with much enjoyment for several years, and I sincerely agree with Brother Thatcher in saying you can not write too much. I think your temperance pieces are simply priceless, and it may interest you to know we just voted our little village dry. Your temperance page helped to give us more strength and courage, and I feel in duty bound to tell you this.

Gypsum, Colo., Nov. 6.

BIRDIE HOCKETT.

### "THE OLD SCHOOL."

Mr. Root:—Your circular letter came just as I was starting to the Central Illinois Horticultural meeting. I had a paper before the convention on natural aids of the fruit-grower, and it is needless to say the honey-bee took the first place. I have read GLEANINGS for 18 years, though not a subscriber that long; and of the hundreds of papers and magazines that come to my desk each month, none of them are valued higher than GLEANINGS, and only two others are considered worthy of saving and binding.

Mr. A. I. Root's department is one of the best and most helpful of any similar department I know of, and his articles can not help being beneficial for the up-building of the home life, which, by the way, is the one important thing. He belongs to "the old school" that has not forgotten the golden rule; and I trust he may be spared to continue many years in his excellent work.

Normal, Ill., Nov. 21.

A. M. AUGUSTINE.

### AN INSPIRATION TO DO GOOD AND BE GOOD.

I should be sorry to lose a single copy of your journal, as everything you write is so good and healthy, especially your notes on home and health. I also thank you from the bottom of my heart for the way you have treated, and the stand you have taken on temperance, on cutting out fake advertisements, patent medicine, etc. May God give you power and strength to continue for many years to come. You don't know the amount of good you are doing. The world seems to be crying out for good honest men, for they are so few, and we need them so much in our Sunday-schools, our pulpits, our governments, in every walk of life; and your papers seem to give one an inspiration to be good and do good.

Vancouver, B. C., Nov. 1.

GEO. SCHOFIELD.

### FROM "COVER TO COVER," COVERS INCLUDED.

I write to return our thanks for your very unexpected kindness in the matter of GLEANINGS. It is always read in this home from cover to cover—when we have it. By the way, the covers are charming themselves.

We have felt the touch of your personality ever since the far-away days in Tabor, Iowa, where our little apiary was laid out on the terraces of our hillside home, after the pattern shown in the A B C and GLEANINGS, and where, into the midst of our discussions of "comb foundation" and "bee-queens," came the call that made us wanderers on the earth. The bees went with us to our first pastorate, where several colonies were stolen one Sunday night. We never moved the bees again; but in spite of the loss by theft they did famously for us those years; and Mr. Bosworth was helped to get into close touch with men by what he could do for them among the bees, helping them "transfer," selling to them and introducing for them Italian queens, and extracting honey for them. He paid \$5.00 for his queen.

The only time I ever saw you face to face was at Arthur T. Reed's Fourth-of-July meeting at Thompson, O., when you rode out on your wheel to be pretent, and afterward wrote it up for GLEANINGS.

I am not getting old—not at all—but I fear I am getting garrulous—with my pen.

MRS. L. A. M. BOSWORTH.

Neosho Falls, Kas., Nov. 23.

Before buying your Comb Foundation, or disposing of your beeswax, be sure to get our prices on wax and foundation, or our prices on working wax into foundation.

We are also in a position to quote you prices on hives, sections, and all other supplies. We give LIBERAL DISCOUNTS during the months of December, January, and February.

Remember that

# DADANT'S FOUNDATION

is the very best that money can buy.

We always guarantee satisfaction in every way.

LANGSTROTH ON THE HONEY-BEE (new edition), by mail, \$1.20.

Send for our prices on Extracted, White-clover, and Amber Fall Honey.

**DADANT & SONS, . . HAMILTON, ILL.**

## FOR OVER 25 YEARS

our make of goods has been acknowledged to be in the lead as regards  
**WORKMANSHIP and MATERIAL.**

**Our AIR-SPACED HIVE is a most excellent winter hive,**

and fully as good and convenient for summer management as the single-walled. Same inside dimensions as regular Dovetailed hives; all inside material interchangeable with Dovetailed hives.

**We manufacture full line of BEE-KEEPERS' SUPPLIES.**

FALL AND WINTER DISCOUNTS:

Dec., 4 per cent. Jan., 3 per cent. Feb., 2 per cent. Mar., 1 per cent.

Catalog free.

**W. T. FALCONER MFG. CO., Jamestown, N. Y.**



It Costs No More to

# BUY DIRECT

# CALIFORNIA FRUIT

## DRIED AND CANNED

### HONEY

(ORANGE—SAGE)

### NUTS

(WALNUTS—ALMONDS)

Try it once and you will never buy any other way.

# WE PAY THE FREIGHT

TO ANY RAILWAY STATION IN THE UNITED STATES.

**DRIED FRUIT** Put up in special 50-pound assortments, packed in two-pound cartons or one kind in a box, a most convenient form for small families or where several families club together.

## SPECIAL DRIED-FRUIT ASSORTMENT

### Number 1, \$6.00

18 lbs. Prunes, large size  
10 lbs. Peaches  
10 lbs. Apricots  
4 lbs. Loose Muscatel Raisins  
4 lbs. Seeded Muscatel Raisins  
4 lbs. Seedless Sultana Raisins

### Number 2, \$6.50

24 lbs. Prunes, large  
14 lbs. Peaches  
12 lbs. Apricots

### Number 3, \$6.00

6 lbs. Seeded Muscatel Raisins  
10 lbs. Seedless Sultana Raisins  
10 lbs. Loose Muscatel Raisins  
8 lbs. Prunes, large size  
8 lbs. Peaches  
8 lbs. Apricots

## CANNED-FRUIT ASSORTMENT

**\$4.75 Case—2 doz.**

### APRICOTS PEACHES PEARS PLUMS

Fancy fruit in rich cane syrup. "WARE-DA-GRO" Brand.

## Write for Special Price List and Three Colored Post-cards

REFERENCE, FIRST NATIONAL BANK, COLTON, CALIFORNIA.

## CALIFORNIA FRUIT PRODUCTS CO., AVENUE I, COLTON, CAL.



The appeal to refinement is just as valid as the appeal to reason. Any manufacturer would soon put himself out of business by neglecting the consideration of style and finish.

## OLD HAMPSHIRE BOND

is a business stationery which meets every practical requirement and fills every artistic desire. It is as permanent as paper can be made. It is as elegant as any business paper ought to be.

Let us give you the OLD HAMPSHIRE BOND Book of Specimens. It contains suggestive specimens of letterheads and other business forms, printed, lithographed and engraved on the white and fourteen colors of OLD HAMPSHIRE BOND.

### Hampshire Paper Company

Only paper makers in the world making bond paper exclusively  
South Hadley Falls, Massachusetts





# Index for Vol. XXXVI of Gleanings in Bee Culture.

In using this index the reader should not fail to note that it is divided into five departments, namely, General Correspondence, Editorials, A. I. Root's writings, Contributors, and Illustrations. The whole index has been prepared with great care. Sometimes two and even three catch-headings will be found, referring to the same general subject. The purpose of this cross-indexing is to facilitate reference. If the reader does not find the subject he desires under one head, let him think of some other catch-heading and try that, and so on. If not found in the General Correspondence try Editorials or Illustrations. Subjects are never indexed under the words *A, An, The, How*, etc. Always look for some important catch-word that comprehends the thought or discussion.

Editorials are indexed separately, as they relate to prices, current items, announcements, and the general scope of current discussion.

The index of Illustrations will be found especially valuable from the fact that most of the important articles have cuts. By looking for the cut under this index one will be able to locate the subject he seeks.

Owing to the fact that our index for this year is very complete we have been compelled to run the headings in. While this is not quite as handy as the line-for-line scheme, we are compelled to adopt it on account of a lack of room.

## GENERAL CORRESPONDENCE

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This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book let it be the above. It has 376 pages and 138 cuts (Retail price \$2.00.)

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This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as old is brought out in a most happy vein. If your children have any sort of fancy for gardening it will pay you to make them a present of this book. It has 187 pages and 46 engravings.

3 | Grasses and Clovers, with Notes on Forage  
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This is by Henry A. Dreer, author of the book "Vegetables Under Glass" that has had such a large sale of late. This little book tells how six tons of grass has been grown to the acre, and gives much other valuable matter.



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This book is of recent publication, and is as full and complete in regard to the building of all glass structures as is the next book in regard to their management. Any one who builds even a small structure for plant-growing under glass will save the value of the book by reading it carefully.

12 | Greenhouse Management, by Prof. Taft\*\*.....1 15  
This book is a companion to Greenhouse Construction. It is clear up to the times, contains 400 pages and a great lot of beautiful half-tone engravings. A large part of it is devoted to growing vegetables under glass, especially Grand Rapids lettuce, as well as fruits and flowers. The publisher's price is \$1.50; but as we bought quite a lot of them we can make a special price as above.

5 | Gregory on Cabbages, paper\* ..... 20

5 | Gregory on Squashes, paper\*..... 20

5 | Gregory on Onions, paper\*..... 20

The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost anybody, whether they raise squashes or not. It strikes at the very foundation of success in almost any kind of business.

| Handbook for Lumbermen..... 05

5 | Home Pork-making; 125 pages, illustrated..... 40

I think it will pay well for everybody who keeps a pig to have this book. It tells all about the care of the pig, with lots of pictures describing cheap pens, appliances, all about butchering, the latest and most approved short cuts; all about making the pickle, barreling the meat, fixing a smoke-house (from the cheapest barrel up to the most approved arrangement); all about pig-troughs; how to keep them clean with little labor; recipes for cooking pork in every imaginable way, etc. Publisher's price is 50 cents, ours as above.

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2 | Sweet Potatoes; Forty Years' Experience with.

By Waldo F. Brown \*..... 08

This little book, by a veteran teacher at our farm

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10 | Talks on Manures\* ..... 1 35

By Joseph Harris. Written conversational style, which makes it very interesting reading. It covers the subject very completely; contains numerous analyses of manures and comparative tables. The use of technical language is avoided, which makes the book of greatest value to the practical farmer. A book of 386 pages, nicely bound in cloth.

5 | The New Rhubarb Culture\*\*..... 40

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5 | Tile Drainage, by W. I. Chamberlain ..... 35

Fully illustrated, containing every thing of importance clear up to the present date.

The single chapter on digging ditches, with the illustrations given by Prof. Chamberlain, should alone make the book worth what it costs, to every one who has occasion to lay ten rods or more of tile. There is as much science in digging as in doing almost any thing else; and by following the plan directed in the book, one man will often do as much as two men without this knowledge.

5 | Tomato Culture ..... 35

In three parts. Part first.—By J. W. Day, of Crystal Springs, Miss., treats of tomato culture in the South, with some remarks by A. I. Root, adapting it to the North. Part second.—By D. Cummins, of Conneaut, O., treats of tomato culture especially for canning-factories. Part third.—By A. I. Root, treats of plant-growing for market, and high-pressure gardening in general.

3 | Vegetables under Glass, by H. A. Dreer\*\*..... 20

3 | Vegetables in the Open Air\*..... 20

This is a sort of companion book to the one above. Both books are most fully illustrated, and are exceedingly valuable, especially at the very low price at which they are sold. The author, H. A. Dreer, has a greenhouse of his own that covers one solid acre, and he is pretty well conversant with all the arrangements and plans for protecting stuff from the weather, and afterward handling to the best advantage when the weather will permit out of doors.

3 | Winter Care of Horses and Cattle..... 25

This is friend Terry's second book in regard to farm matters; but it is so intimately connected with his potato-book that it reads almost like a sequel to it. If you have only a horse or a cow, I think it will pay you to invest in a book. It has 44 pages and 4 cuts.

3 | Wood's Common Objects for the Microscope\*\*.. 47

8 | What to Do, and How to be Happy while Do-

ing It ..... 65

The above book, by A. I. Root, is a compilation of papers published in *Gleanings in Bee Culture*, in 1886, '7, and '8. It is intended to solve the problem of finding occupation for those scattered over our land out of employment. The suggestions are principally about finding employment about your own homes. The book is mainly upon market-gardening, fruit-culture, poultry-raising, etc. Illustrated, 188 pages, cloth.

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